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and the stars.

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# ARRAN:

ITS

TOPOGRAPHY, NATURAL HISTORY,

And Antiquities.

BY

THE LANDSBOROUGHS,

FATHER AND SON.

*WITH MEMOIR OF REV. D. LANDSBOROUGH, D.D.,*

A.L.S., M.W.S., M.R.P.S.



ARDROSSAN : ARTHUR GUTHRIE.

L O N D O N : H O U L S T O N & S O N S.

MDCCCLXXV.



To Her Grace

THE DUCHESS OF HAMILTON AND BRANDON.

---

RESPECT and gratitude lead me to dedicate this Book to your Grace. These sentiments have been awakened by the very high terms in which you are invariably and universally spoken of by the inhabitants of Arran ; and by the way the House of Hamilton has acted toward those to whom I am related. For generations, as members of the medical profession, they faithfully served the Dukes of Hamilton, and were rewarded by consideration and confidence while they lived ; and by care and kindness toward those dear to them, when they were gone. It is owing to this that for nearly a quarter of a century, I have had the pleasure of occasional residence—at fair Strabane, embowered Cromla, and view-commanding Strathwhellan—all occupied, at nominal rents, by the widows and daughters of those servants of your noble House. That your Grace, and all dear to you, may have happiness and every blessing in this world, and in the next, is the sincere desire of

Your humble Servant,

DAVID LANDSEBOROUGH.



## P R E F A C E .

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IN editing the Second Edition of my Father's "NATURAL HISTORY OF ARRAN," I have prefixed it by a short memoir. I have also removed the repetitions which he regretted, and have sought to render it more his own by excluding many of the long quotations, and by inserting in their place suitable extracts from his other writings. Scientific names now in use have been substituted for those which are obsolete. Some short additions, within brackets, have also been made, and a few sentences introduced to connect insertions. The chapters on the Antiquities and Geology of Arran are meant only as introductory to the works of Professor Ramsay, Dr. Bryce, Mr John Eaton Reid (History of the County of Bute), and Mr M'Arthur. The Topographical consists of two parts—the first forms a Guide Book to Arran ; the second narrates a series of Pleasure Excursions there. It is hoped that both may be of use to visitors, and for their convenience they have been placed at the beginning of the volume. I alone am responsible for them ; as also for the chapters on Antiquities and Geology.

My Father acknowledges his obligations to Professor John Fleming, Professor Balfour, Mr Bean, Dr. George Johnston, Sir W. J. Hooker, Dr. Greville, Mr Ralfe, Dr. Dickie, Mrs Griffiths, Professor Harvey, James Smith, Esq., Jordanhill ; Professor Gardner, Mr W. Thomson, Mr Alder, and Mr Paterson.

I am greatly obliged to Professor Ramsay, Director-General of the Geological Survey of Great Britain, who, in addition to answer-

ing my geological queries, has most kindly allowed me the use of the wood-cuts which illustrate his very valuable work on Arran; Jas. Paterson, Esq., Whitehouse, who prepared the drawings from which were taken the woodcuts of Brodick and of Glen Rosie; Professor Balfour, who has kindly revised the Botanical Lists with which he favoured my Father; Mr Robert Gray, author of the very interesting "Birds of the West of Scotland," who has most liberally allowed me to print his list of the "Birds of Arran;" Mr Duncan, Troon, who has superintended the publication of the Entomological list, to which he has made very important additions; Mr Borland, Kilmarnock, who has assisted me in many ways; most of all to my brother-in-law, the Rev. Arthur Thomson, Yester, who has most obligingly looked over my manuscripts, and to whom I am indebted for many valuable suggestions. Obligations of another kind I owe to the venerable Miss Stoddart, Cromla. Though only related to her by marriage, she has ever welcomed me to her house as to a home, and it was she who allowed me to plant in her garden the foreign trees and shrubs mentioned in connection with Corrie. Botanists will find Hemmedy's "Clydesdale Flora" very useful.



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# ITINERARY.

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## ROADS.

Invercloy Quay to Lamlash Quay,  $3\frac{1}{4}$  miles ; (By Sea-shore,  $5\frac{1}{2}$ .) Lamlash Quay to Eaisdale stream, 5 miles ; (By old road,  $4\frac{3}{4}$ .) Glen Eaisdale Stream to Kildonan Castle,  $3\frac{1}{2}$ . Kildonan Castle to Lag 6. Eaisdale Stream to Lag, 9. Lag to Slidderly,  $1\frac{1}{2}$ . Slidderly to Blackwaterfoot Inn,  $5\frac{1}{2}$ . Blackwaterfoot to Shedog,  $1\frac{3}{4}$ . Shedog to Letter-Pillar,  $3\frac{1}{4}$ . Letter-Pillar to Iorsa Stream,  $4\frac{3}{4}$ . Blackwaterfoot to Iorsa Stream (direct road), 6. Iorsa to Imachar,  $2\frac{3}{4}$ . Imachar to Catacol Stream,  $6\frac{3}{4}$ . Catacol Stream to Lochranza Inn,  $2\frac{1}{2}$ . Lochranza Inn to Sannox Stream,  $6\frac{1}{2}$  ; (By Sea-shore 9.) Sannox Stream to Corrie Hotel,  $1\frac{1}{2}$ . Corrie Hotel to Invercloy Hotel, 6 ; (By wooden bridge  $5\frac{3}{4}$ .) Total circumference by road,  $56\frac{1}{4}$  ; (To walkers,  $55\frac{3}{4}$ .) Greatest length,  $20\frac{1}{4}$ . Breadth, 8 to 10. Invercloy Hotel to Letter Pillar at Machrie,  $6\frac{1}{4}$ . Lamlash Hotel to Lag,  $10\frac{1}{2}$  ; (By old road 9.) Lamlash Hotel to Slidderly  $9\frac{3}{4}$ .

## DISTANCES.

*(On Land by Paths.)*

Highway to Loch Iorsa,  $2\frac{1}{4}$ . Loch Iorsa to Loch Tanna,  $3\frac{1}{2}$ . Approach gate to top of Goatfell,  $3\frac{1}{2}$ . Brodick Church to the Garbh Allt Stream, 2. Garbh Allt Stream to Ben Nuis  $2\frac{1}{4}$ . Ben Nuis to Ben Tarsuinn, 1 ; Ben Tarsuinn to Caisteal Abhail, 2. Lamlash Quay to Holy Isle,  $1\frac{3}{8}$ . King's-cross Point to Holy Isle,  $\frac{3}{8}$ . Port Dearg to Pladda,  $\frac{1}{2}$ . Bennan Head to Ailsa, 14. North Sannox to Bute (Garroch Head), 6. Ardrossan to Invercloy, 13 1-8ths. North Newton Point to Skipness Point, 3 3-8ths. Circumference of Holy Isle,  $4\frac{1}{4}$ . The west side of Arran is separated from Cantyre by the Sound of Kilbrannan—averaging from North Newton to Imachar 4 miles wide.

## GLENS.

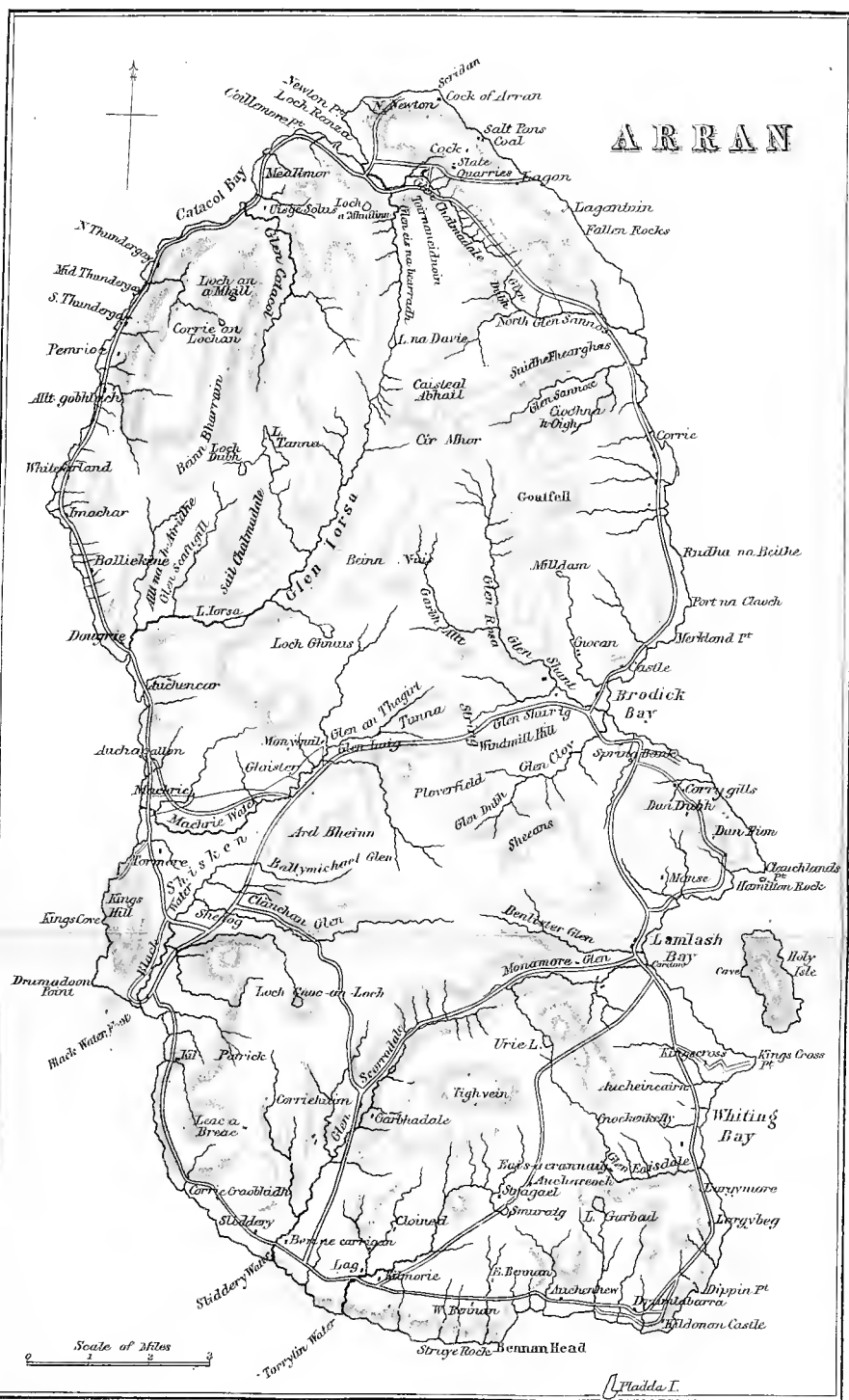
Length of Glens from the Sea to the top of the ridge at their head :—Glen Rosie, 5. Glen Sannox,  $3\frac{1}{4}$  to Southern ridge ;  $3\frac{1}{2}$  to Northern. North Glen Sannox,  $3\frac{1}{2}$ . Glen Easan Biorach (Ranza Glen),  $3\frac{1}{2}$ . Glen Catacol,  $3\frac{1}{2}$ . Glen Iorsa, 8.

## HEIGHT OF MOUNTAINS AND ROADS.

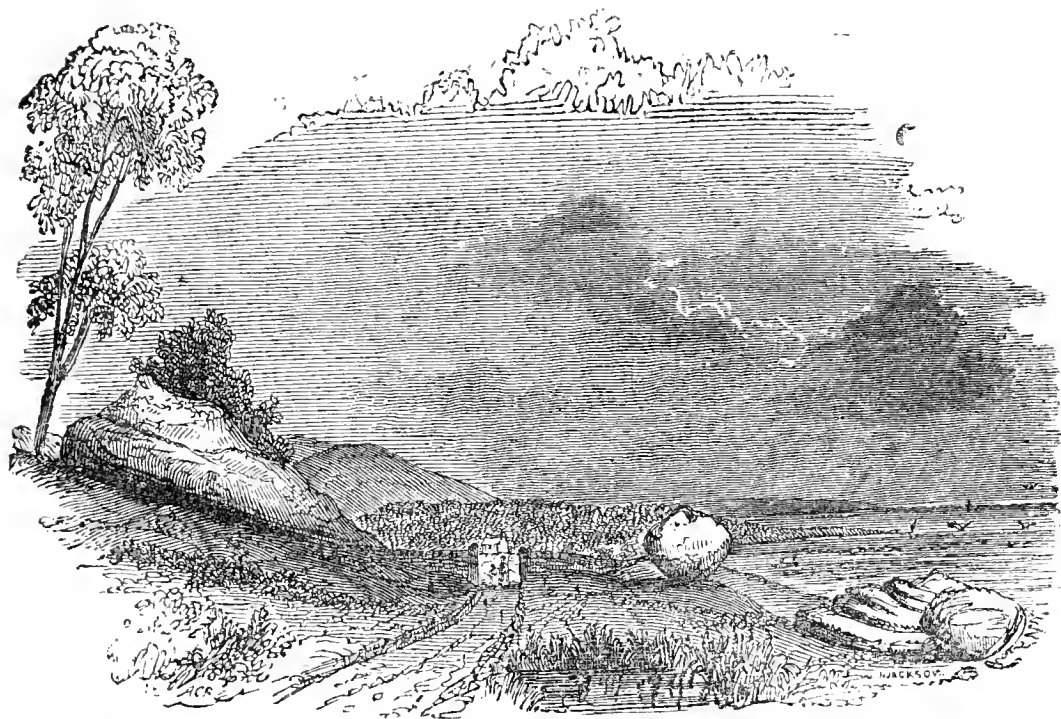
Goatfell, 2866 ; Caisteal Abhail, 2735 ; Ben Tarsuinn, 2706 ; North Top of Goatfell, 2628 ; Cir Mhor, 2618 ; Ben Nuis, 2597 ; Ben Bharrain, south summit, 2345 ; north summit, 2310 ; Cioch na h-Oighe, 2168 ; Holy Isle, 1030 ; Bennan Head, 523.

Highest part of road between Brodick and Lamlash, slightly above 400 ; Highest part of road between Lamlash and Whiting Bay a little above 200 ; Highest part of String Road, 700 ; Highest part of road between Corrie and Lochranza, 600 ; Ridge between Glen Rosie and Glen Sannox, about 1400 ; Ridge between Glen Iorsa and Glen Sannox, about 2000 ; Ridge between Whitewater and Glen Sannox, about 2350.









CONICAL BOULDERS.

## ISLAND OF ARRAN.

### CHAPTER I.

ARRAN, "The Sharp Peaked," as the name signifies, one of the Inner Hebrides, is the most interesting of British Islands.

It consists of two parts, the division betwixt them corresponding with the road crossing the island from the Bay of Brodick to that of Machrie.

The Northern part is mountainous, and is divided into three parallel ranges, viz., the Western, bounded on the west by Kilbrannan Sound, and on the east by Glen Iorsa and Glen Easan Biorach (Lochranza Glen); the middle by

these glens on the one side, and by Glen Rosie and Glen Sannox on the other ; and the Eastern between the glens of Rosie and Sannox, and the Frith of Clyde.

The arrangement of the various strata of rock in this northern section is very remarkable and instructive. The central, and greater portion, is granite. It is encircled by a band of slate. This, again, is rimmed on the south, south-east, and west by Old Red Sandstone. None of these rocks, with the exception of two small patches of granite, are found in the southern section. The only rock in the northern half of the island, in addition to the three already mentioned, is a member of the carboniferous series, and edges the Old Red Sandstone along the coast line from Brodick to a little north of Corrie, and edges the slate from the Fallen Rocks to near Newton Point. The central mass of granite has been erupted in a molten state, hence the contorted and otherwise altered condition of the slate along the line of contact, hence also the veins of granite by which the slate is penetrated.

The early history of Arran is almost unknown. What race first occupied it, and what was their fate, cannot now be ascertained. It is known that the Celts at an early period obtained possession of the Island, and that they were subdued in the ninth century by Harold, king of Norway, who, in addition to his own dominion, possessed Orkney and Shetland, the Hebrides, and the Isle of Man. These islands were generally retained by the Norsemen till Haco, king of Norway, in the year 1265, was defeated in the reign of Alexander, king of Scotland, at the battle of

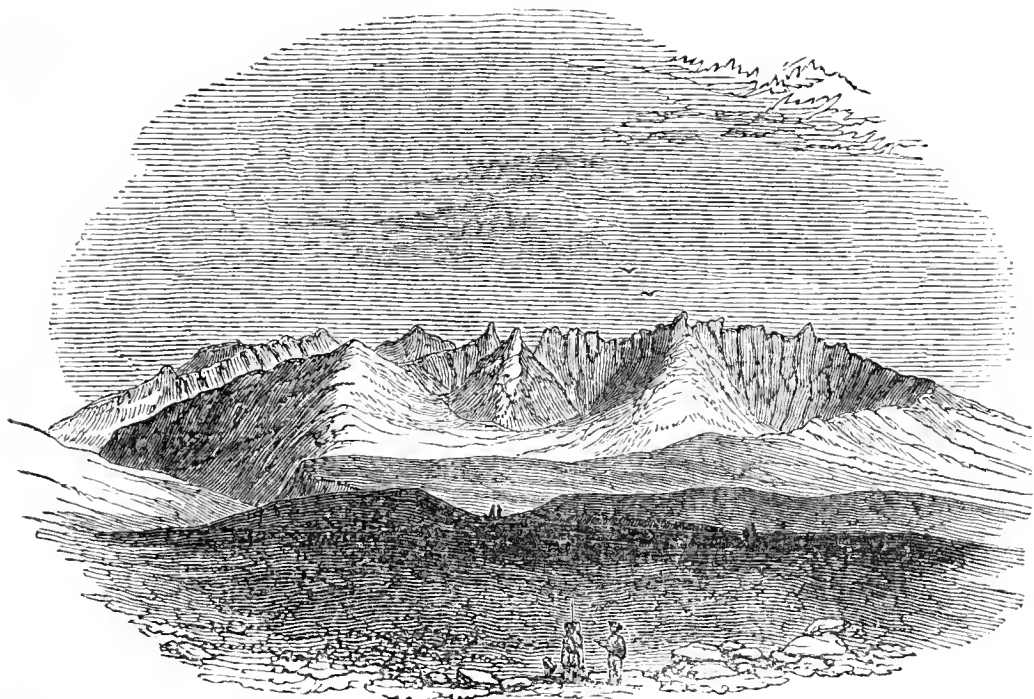
Largs, which resulted in the surrender of the Hebrides to Scotland, upon condition of the payment by the Scottish king of the annual sum of an hundred merks. At the marriage in 1469 of James the Third to Margaret, daughter of Christiern King of Norway, Sweden, and Denmark, this tribute was remitted, and Orkney and Shetland, along with the Hebrides, were fully and finally incorporated with the Scottish dominions.

This important event is followed by many centuries, during which little is heard of Arran, and when the veil is raised about the beginning of this century one is surprised at the primitive condition of the Island. Roads for wheeled vehicles had only begun to exist. Sledges, and baskets slung over the backs of horses, or on those of women, supplied the place of carts. The natives spoke the Gaelic language ; drank home-made whisky ; and frequently wore untanned shoes of their own cobbling. The cosey ancestral hut, with chimney in the centre of the apartment, and whose only window when the door was shut, in some cases, was the smoke-hole in the centre of the roof, still prevailed. Farms were held by communities ; the run-rig system (rig about, hence common risk from fire and sword,) yet in use ; fields were unenclosed ; uncultivated lands common—all parties having grounds adjoining them being free to send to them as many animals as they possessed, causing inevitable overstocking, with cattle under-fed in summer, and many dying of starvation in winter. Such is the picture Headrick, who wrote in 1807, gives of Arran.

Such a state of things could not much longer continue.

The geologist led the van of improvement when he directed attention to Arran, as so wonderful in its structure that it might be regarded as a geological epitome of the world. The botanist next discerned that owing to its situation, and the great variety of its soil and temperature, he could scarcely desire a better field for the prosecution of his study. The proud mountain peak, and the wild and lonely glen wooed the lover of grandeur and beauty ; while the invalid sought its shores for the sake of its pure and balmy atmosphere.

Arran is now the favourite summer resort in the West of Scotland, and it is with the hope of furnishing a guide to visitors in exploring this beautiful island that these pages have been prepared.



VIEW FROM LAGAN HILL.

## CHAPTER II.

### VIEWS OF ARRAN.

WHO can have crossed from Dalry or Kilbirnie to Largs, and, after traversing miles of barren moor, reached the height which overhangs the beautiful grounds of Kelburn, where, all at once, there bursts upon him that most magnificent panorama which the finest of all Scottish estuaries here presents without experiencing the highest delight? This scene is magnificent as beheld in a morning in September, when the rising sun, shining right upon Glen Sannox, and the corries betwixt it and the eastern flank of Goatfell, reveals their inmost depths. But in a summer evening it is gorgeous. Dr Chalmers,

when taken to this spot, stood entranced, exclaiming—  
“How grand! how glorious!” Then after a pause—“This is what I term the statuary of the Clyde.”

What a charm Arran imparts to Ardrossan; for the greatest attraction of that fashionable watering-place is the grandeur of the sunsets behind the Arran mountains, as seen over the molten gold of the intervening sea.

Ayr is justly proud of its drives; especially of that by the coast road to Maybole, where the view of Arran is the great attraction. In the north of Ayrshire it is the Sannox portion which is beheld; here it is Glen Rosic and the south.

To come nearer. No view of Arran is more pleasing than that sometimes obtained by night from the sea. This the writer enjoyed on one occasion when sailing from Greenock to Dublin. The moon was full, the sky perfectly clear, and as he passed Arran the view was exquisite, the sea being lighted up with the silvery rays of the moon, while, viewed in the same pale light, the mountains looked higher and more serenely grand than he had ever seen them before.

The circuit of Arran by sea may be easily made, for this is one of the trips most frequently taken by the steamer on the Ardrossan station, and cannot fail to delight the tourist. He will not, indeed, behold the soft and enchanting loveliness of the Lakes of Cumberland. In gloomy and savage grandeur he will not find Arran equal to Skye or to Glencoe. Nor will he here find a mountain-range running east and west like the Ochils, and thus all day, as on an



expansive mirror, reflecting the varying moods and expressions of the sky. Yet, take Arran as a whole, where in Britain can be found such a combination of all that is beautiful, romantic, and sublime ?

In making the circuit of Arran by sea, you pass Lamlash, with its spacious bay and fine view *right up* Glen Rosie ; King's-Cross Point, associated with "The Bruce"; pleasant Whiting Bay ; Pladda, with its lighthouse ; the bold Headlands of Dippen, Bennan, and Imachar ; Glen Iorsa, with its encircling mountains ; the Corrie of Allt Gobhlach, embosomed betwixt the rival heights of Beinn Bharrain (2345 feet) and Beinn Bhreac (2333 feet) ; Lochranza so calm, so solitary, and so romantic—

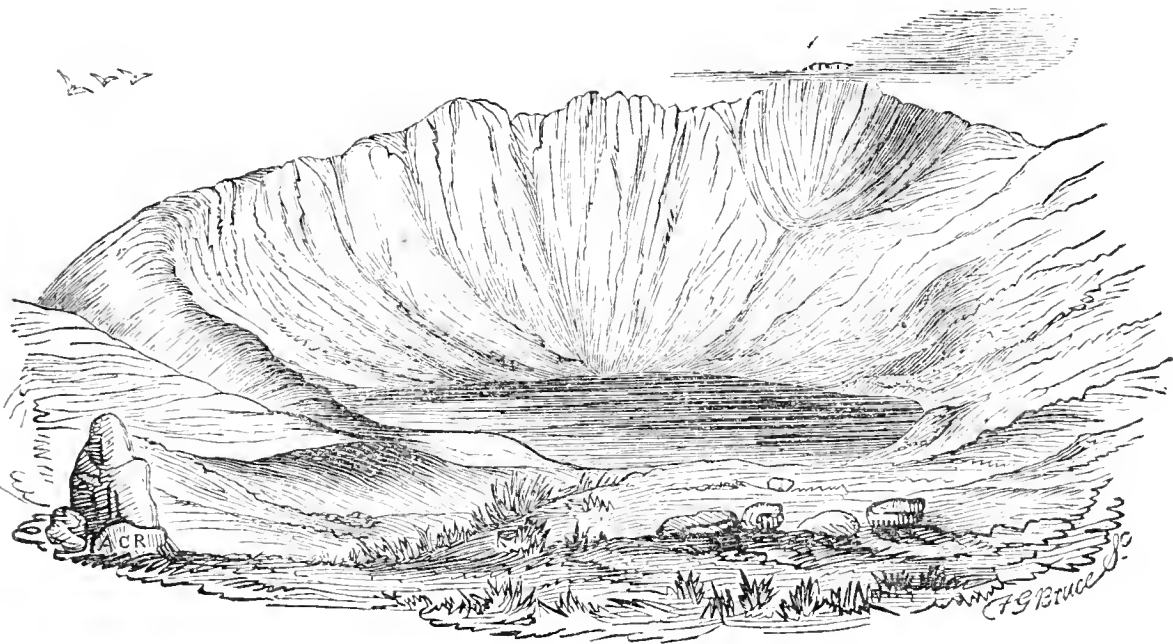
“ On fair Lochranza streamed the early day,  
Thin wreaths of cottage smoke are upward curled  
From the lone hamlet, which her inland bay  
And circling mountains sever from the world.”

Two views far surpass all the others—those from the bays of Sannox and Brodick. Sannox is seen to greatest advantage from the sea, and never is more enjoyed than when rowing leisurely on a summer evening from South to North Sannox Bay, for thus there is time fully to take in the whole impression of its grandeur.

Not so grand as Glen Sannox, but adding to grandeur much greater beauty and variety of attraction, is the view from the south-east of Brodick Bay. Let it be seen from a boat on a summer evening, when the light clouds floating in the sky cast shadows moving mysteriously over the landscape ; when the ridges and fine peaks of the rugged encir-

cling mountains, burnished by the golden beams of the setting sun, stand in striking contrast with the deep shade of the far-receding glens ; and when the mellow light of evening, with its calm and holy stillness, is settling upon and softening the green fields, rich woods, and happy homesteads, encircling the slumbering waters of the immediate foreground.

Such was the view enjoyed by the British Association when returning from Arran in 1841. Dr Landsborough relates that Sir Roderick Murchison addressing Professor Johnstone, who was at the time lecturing, said, "I am sorry to appear to interrupt, but did you ever see anything so rich and lovely ? M. Agassiz, have you anything more magnificent even in your Alpine Switzerland ?" It would have been too much to expect that M. Agassiz would allow Scotland to carry off the palm from his beloved fatherland, but he came very near it, when he replied—"It is beautiful ! —most beautiful ! and you have one thing that Switzerland has not—you have the sea !"



COIRE AN LOCHAN.

### CHAPTER III.

#### A DAY'S VISIT TO ARRAN.

**I**T is not uncommon for persons to be unable to devote more than one day to Arran.

Such parties are often much perplexed to know how to occupy their time to the greatest advantage. The following information may assist them.

Suppose they leave the western capital in the morning. They are conveyed by an express train to Ardrossan, where they enter the steamer. Soon the Horse Isle is passed; the mountains of Jura, visible on a clear day, out of sight; the south-east point of Bute in a line with the extreme point of the extensive bay there commencing—the sign of

being a mile more than half across ; and within two hours of leaving Glasgow they are in the beautiful Bay of Brodick. Here a good walker may land and start for Goatfell ; an excursion he may easily accomplish in five hours.

Those disinclined for much exertion will enjoy the finest high-way walk in Arran by proceeding by steamer to Lamlash, and walking across the hill to Invercloy ( $3\frac{1}{4}$  miles) to meet the vessel on its return.

On leaving Lamlash Quay turn to the right, and take up the hill by the first road to the left. At the top of the avenue of trees the pinnacles of Goatfell and its surrounding mountains come in sight. As you continue to ascend the others are lost, but Goatfell's peak is still before you, and soon its bold, broad front, in all its massive grandeur, stands revealed, and immediately the ridge is gained.

Here is unfolded one of the finest views in the whole island. Behind is sweet Lamlash, with its noble bay, its shipping, and its peeps of ocean beyond. In front, on the extreme left, is the Ben Nuis range, rendered conspicuous by the high perpendicular precipice, the finest in the whole of Arran. Forming the western boundary of Glen Rosie, and uniting at its top to the range already mentioned, is the Ben a' Chliabhain range. Crossing its head, and taking its rise at the extremity of the Ben Nuis range, from which it runs in a north-easterly direction, is the A' Chir (The Comb), one of whose ridges is named Sron-an-Fhamhair, (the Giant's Nose). Almost in a line with it, but slightly to the right, and looking as if forming a part of it, though about a mile beyond, are Caisteal Abhail and the ridge ex-

tending to the first of the Castles. Goatfell displaying both his flanks, and towering as king among the giants, closes the view. On the right of the Brodick side of the ridge are four large stones. Within their circuit Dr Bryce found a cist cut out of the solid rock, and fitted with a lid of stone. The cist contained fragments of bone, and in the soil above it were some rude arrow-heads of flint.

As the descent is made toward Brodick, the same objects continue for a time in sight, but gradually present themselves at different angles, causing them to change in appearance, thus, by a life-like variety of expression, giving a great additional charm to the scenery.

After reaching Invercloy there will be time for a leisurely saunter amid the beautiful and sublime in the Bay of Brodick. A good walker will have ample time for visiting Glen Rosie. (Chapters vi. and xi.)

There is another road from Lamlash and Brodick. It is a mile longer. A young lady and gentleman of my acquaintance, who wished a walk, beautiful and romantic yet retired, much preferred it.

On leaving Lamlash Quay pass along the shore till about half-way to Clauchland Point, where begin to ascend. At the ridge a most magnificent view all at once bursts upon one. Pass to the little eminence on the right. It is Dunfion. How fine the view ! On one side Lamlash Bay, with the Holy Isle like a huge breakwater sheltering the loch from the fury of the storm. On the other the Bay of Brodick and the coast as far as Corrie.

But why is the eminence beneath our feet so level ?

How is it that all around there is the appearance of the foundation of walls? The name of the place is Dun Fion, which means the Fort of Fion, or Fingal—that is, Fion the Gael. Here stood one of the forts of Fingal; and “a better position for a beacon station than that of Dun Fion could not have been selected by the early inhabitants of Arran. It is situated toward the extreme east point of the Island, between the two important harbours of Brodick and Lamlash, and commands an uninterrupted view of the Clyde, as it opens into the Firth and expands into the Atlantic, whilst in the grey horizon the dark outline of the Ayrshire coast may be seen which, in these olden times, was dotted and streaked by the strengths and hamlets of the warlike Damnii. A hostile fleet could not leave the opposite shores, or enter the Firth, without being observed by the wary sentinels of Dun Fion; and the signal fires would herald the alarm of invasion over the entire island. Such were the fortifications of Arran when the fleet of Agricola darkened the waters of the Clyde.” (*The Antiquities of Arran, by John M<sup>r</sup> Arthur.*)

How bracing the atmosphere at this old sea-fort! how charming the scenery! and how soothing the sound of the waters beneath! How pleasant it would be to spend a couple of hours here on a summer evening, enjoying the present, and seeking to realize the past! But time presses.

After leaving Dun Fion you soon come to a delightful wooded dell, where there is a bridge over a little stream. This stream, near the shore, half encircles a most romantic spot—that of Dunan (Little Fort). After crossing the

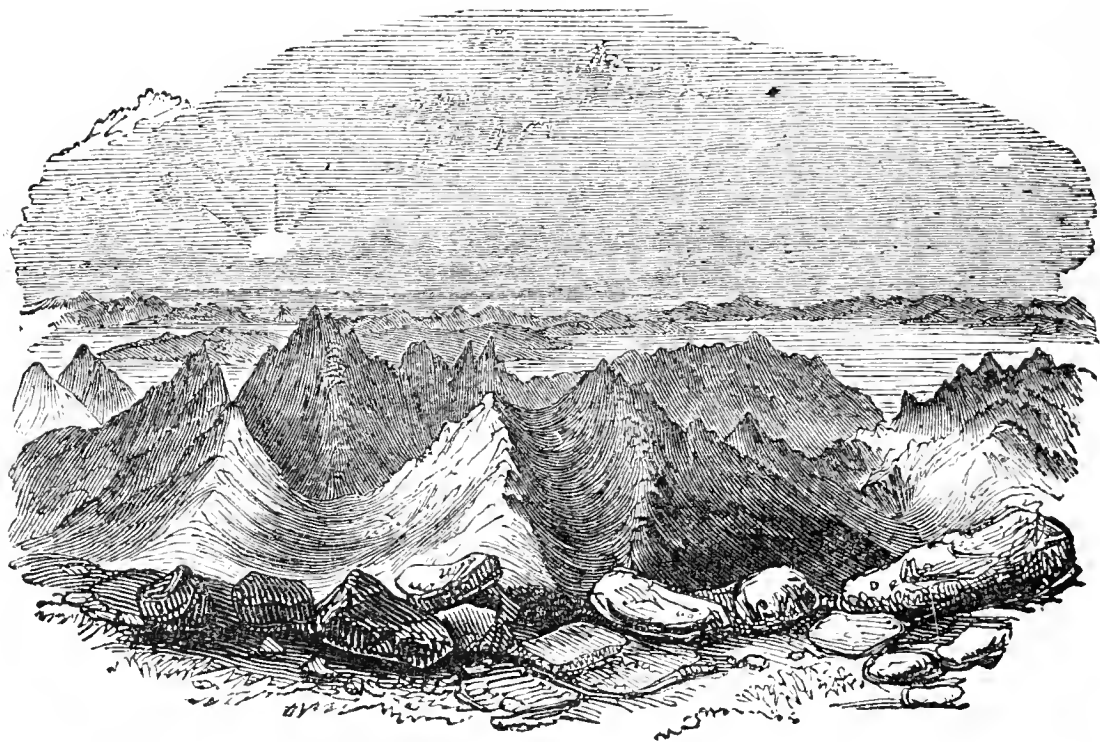


stream the road ascends. When it has descended a little, take a road on the right. It conducts to the Strathwhellan road. After joining it, take to the right for about a stone-cast. You have now before you the finest view in Arran, surpassing that from the ridge of the Lamlash road, from embracing the glorious sea as displayed in Brodick's Bay ; Brodick Castle, with all its hoary associations, reposing on Goatfell's slope ; while the impression is heightened by Ben Lomond, with the Arrochar mountains, and those in the neighbourhood of Callander, being seen over the Island of Bute.

Return and follow the Strathwhellan road till it conducts to that between Lamlash and Brodick, whence proceed to Invercloy.

For another way of spending the day, see latter part of chapter xi.

As the steamer leaves Brodick Bay, enjoy once more the magnificent panorama. In the light of an afternoon sun it looks somewhat different from what it did in the morning.



VIEW FROM GOATFELL.

## CHAPTER IV.

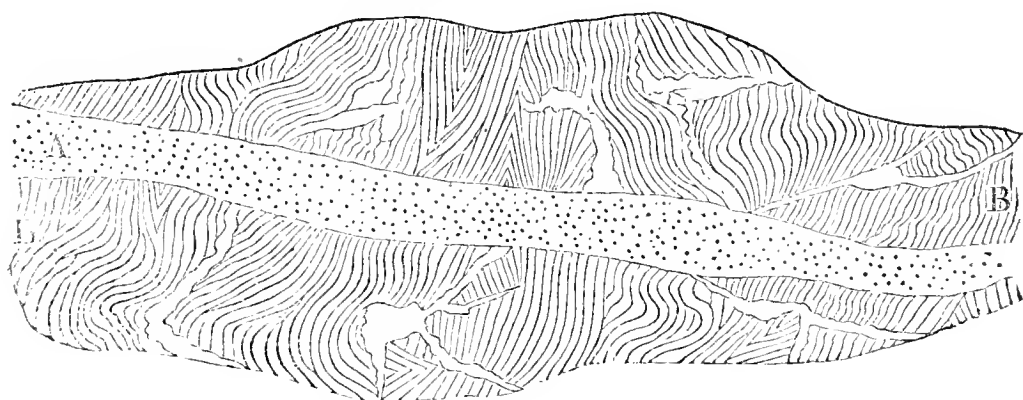
### GOATFELL.

**G**OATFELL (Gaoth-bhein)—that is, “The windy mountain” is 2,866 feet in height. Its ascent is the great achievement of a visit to Arran.

Choose a clear day—most frequent with a north-west wind. Six hours may be allowed for the excursion.

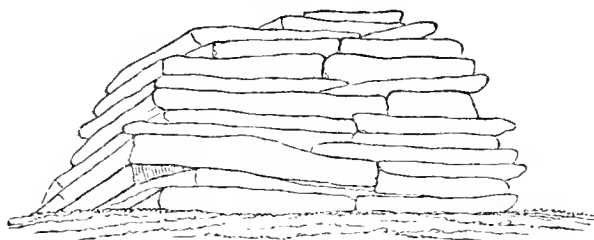
Enter the south approach to the Castle, immediately beyond the bridge over the Rosic stream. Follow it till you have crossed a second stream, where enter by a gate the foot-path on the left, and continue it till it begins to descend at the place where the wood on the left has become a narrow strip. Here a foot-path strikes off, which fol-

low. It immediately crosses the Chocin Burn, when the path becomes well defined and leads to the Mill-dam, near which is the well-known junction of granite and slate. The illustration exhibits a view of the granite (A) penetrating the slate (B). (See page 10.)



GRANITE VEINS.

Here turn to the right till the summit of the ridge is reached which bounds the south side of the White-water Glen. The path is now steep though comparatively smooth, and before it reaches the rugged rocks and cyclopean granite



GRANITE WALLS.

walls which form the upper part of the mountain, the solitary tower-like eminence of the most easterly of the Castles suddenly and strikingly bursts into view. Soon a second peak strikes the eye. It is separated from the first Castle by the Ceum-na-Cailliach (The Hag's Step), which is well seen. Take a draught of cool water to be had alongside of the path, at

the spot where the top of the mountain has become a mass of bare rock. Thus refreshed by a few more resolute efforts the top will be gained. Here, in case of mist, mark the side by which you have ascended, as there are dangerous precipices on the opposite. The view from the summit of Goatfell is one of the most extensive and magnificent in Scotland. Some of the more notable objects are so distant that they lose much of their impressiveness ; but the nearer view embraces a combination of sea, frith, and loch—of island, bay, and rocky promontory—of deep solitary glens, frowning precipices, and rugged, jagged, savage pinnacle and mountain ridge, unequalled in the British Islands.

“ Look from the giddy height of proud Ben-Ghoil  
On peaks innumerable, sky-cleaving :—Look  
Adown the rugged cliffs precipitous  
Into the dark, and deep, and narrow chasms,  
Those gulfs obscure, which from each other part  
This vast assemblage of gigantic hills.”—*Dr Landsborough*.

On a clear day the following objects are visible—due south, the very striking cone of Ailsa Craig ; more to the west, the Mull of Cantyre, with the Islands of Sanda and Sheep at its extremity ; over Cantyre, Islay ; Jura seemingly a continuation northward of Islay, easily recognised by the twin mountains called the Paps of Jura ; Loch Fyne directly north ; a little to the east of it The Cobbler, Ben Ima, Ben Vorlich, and the fine cone of Ben Laoidh (3,651 feet), all in a line running north—the first at the head of Lochlong—the last within five miles of Tyndrum ; Ben Lomond with its double top south-east of these ; next Ben Venue and Ben Ledi ; east and south-east are the Muirkirk

and Cumnock ranges; south-east of the latter, Cairnsmuir, (2612 feet); further south, the mountains betwixt Loch Doon and Loch Trool, several of which are nearly as high as Goatfell (the Merrick 2764 feet), though owing to their tangled and featureless character they attract little notice; the coast line of Ayrshire to its close at the mouth of Loch Ryan; and beyond Loch Ryan that of Wigtonshire to Fairland Point—26 miles north-west of the Mull of Galloway.

Should the day be very clear the view will further comprehend the noble mountains of Mull, north-east of Islay; and those of the district of Morvern, still more distant, and also more easterly; Ben Cruachan (60 miles distant) in a line with Loch Fyne, and possibly Ben Nevis, a little to the right of Ben Cruachan, and 26 miles beyond it; Ben Lawers over Ben Lomond, and Ben Vorlich over Ben Ledi; on the south-west, Belfast Loch, and 30 miles of Irish Coast north of it.

When the atmosphere is of the *utmost* transparency the mountains of Man (100 miles distant) may be seen by looking up Loch Ryan, and over the neck of low land separating it from the Bay of Luce; the mountains of Mourne (105 miles) over the mouth of Belfast Loch; and Skiddaw (106 miles) over the Heads of Ayr. These distant objects are most frequently visible at sun-rise or sun-set.

The little loch on the slope of Beinn Bharrain is Loch Dubh; the elevated tarn far south, near Shedog, is the end of the small sheet of water on Cnoc an Loch (the hill of the Loch)—these being the only lochs in Arran visible. Before

leaving Goatfell, a few of its more striking phenomena may be mentioned.

One of the most frequent during unsettled weather is, while one is toiling up the ascent, on looking up to see the grand old gentleman in the interesting attitude of putting on his night-cap. But on a day of alternate sunshine and shower the mountain discloses sights which cannot be beheld when the sun is shining with uninterrupted brilliancy. The writer remembers ascending with a gentleman from London, when, as we were within a short distance of the top, a heavy cloud descended, bringing with it a drenching rain. Nothing daunted we persevered, and when the top was reached could scarcely keep our feet for wind, and could not for mist see beyond a few yards. But what a glorious spectacle soon presented itself! For the great bank of clouds began to break, and the sun shone out again, and with what excitement and delight we contemplated the scattering of the great clouds rolling far beneath by the power of the strong wind which had been let loose upon them! How wonderfully light and shade were intermingled! and how majestically these fleecy masses swept along the slopes of Beinn Nuis! reminding one of the words—"At thy rebuke they fled; at the voice of thy thunder they hasted away. They go up by the mountains, they go down by the valleys," &c.

There is another spectacle little inferior to this. It arises from the effect produced by the meeting of two currents of wind at the head of Glen Rosie and Glen Sannox. Owing to the direction of these deep and narrow glens, an

easterly wind drives up both. Standing on the top of Goatfell when the great trough of Glen Rosie—nearly half a mile in depth—is filled with clouds careering upwards, one sees that when they reach the top of the glen they are met by others issuing with like fury from Glen Sannox. The two masses close with each other, wheel, rise high toward heaven and again descend, but only to repeat the same with endless variety, bringing to mind Milton's description of the conflict of the angels:—

“ Wide was spread  
That war and various ; sometimes on firm ground  
A standing fight, then, soaring on main wing  
Tormenting all the air ; all air seemed then  
Conflicting.”

A very different view is beheld when a bank of mist more than two thousand feet in depth covers the landscape, and the mountain tops, seemingly unsupported, rise heavenward bright and clear above, while the sun shines gloriously upon them—apt emblem of those who, having emerged out of darkness and distress by believing in Jesus, “dwell on high,” and bask in the clear and warm sunshine of their Father's reconciled countenance.

At times, when the mountain is capped with a thick cloud, the fleecy covering, as if touched by the wand of an enchanter, suddenly opens, and through the rift the blue sea with its ships, the silver strand, and the beautiful hills and woods and picturesque cottages of Brodick Bay are beheld in amazing loveliness ; but often before there is time to recover from surprise the cloud again closes, and the vision is

gone, yet in memory's tablet it abides, and seems like a glimpse of the better land.

Far more grand and sublime than any of these is it amid these Alpine heights, to see the great lurid clouds, the artillery of heaven, approaching, while discharge succeeds discharge, the sound of each continued and re-echoed amid the surrounding corries and glens; and to know that this blackness and blazing war of elements must soon envelope us. The writer has had only partial experience of this. He had enough.

It may be strangely escaped. Often has the writer heard the Rev. N. Paterson, D.D., speak of his rare delight when, from the top of Ben Nevis, amid sunshine and calm, he saw a storm of thunder, lightning, and rain raging beneath.

Here mention may be allowed of a mysterious incident. Many years ago my sisters and I made the ascent of Goat-fell. We were followed by two shepherd dogs belonging to the farm house in which we were residing. The day was close and warm, and we had not been many minutes on the top before small circling eddies of wind began to play all around, carrying upward the lighter granite gravel. Hissing sounds were also heard at various points. I, then a lad, thought the hissing was produced by serpents, and proceeded to search for them; but when I went to any of the rocks whence the sound proceeded, and looked beneath, it at once ceased, but only to begin at another rock close at hand, which was examined with the same result. By this time my sisters had become much alarmed, apprehending



an earthquake, or something equally dreadful, and urged immediate descent—the imagination of the youngest, a child of nine years, leading her to enforce her request by the statement, “I am sure I feel the mountain shaking!” The dogs in their own language seemed also to beseech descent, by keeping close to my sisters, and looking the very picture of fright—all their hair standing on end. More impressed by the appearance of the dogs than by anything that my sisters urged of danger, I at length agreed. On reflection I was convinced that electricity had been the cause of our alarm; but for long could not find any record of a similar occurrence, till I met with the following in *Travels, by Professor J. D. Forbes, through the Alps of Savoy*—“At length we were free of the glacier, and recovered a tract by no means obvious. The atmosphere was very turbid, the ground was covered with half-melted snow, and some hail began to fall. We were, perhaps, 1500 feet below the Coll, or still 9000 above the sea, when I noticed a curious sound, which seemed to proceed from the Alpine pole with which I was walking. I next held my hand above my head, and my fingers yielded a fizzing sound. There could be but one explanation—we were so near a thunder cloud as to be highly electrified by induction. I soon perceived that all the angular stones around were hissing like points near a powerful electrical machine. I told my companions of our situation, and begged Damatter to lower his umbrella, which he had now resumed, and hoisted against the hail storm, and whose gay brass point was likely to become the *paratonnerre* of the party. The words were scarcely out

of my mouth when a clap of thunder, unaccompanied by lightning, justified my precaution."

The descent of Goatfell, if made by the path already described, need only occupy a couple of hours.

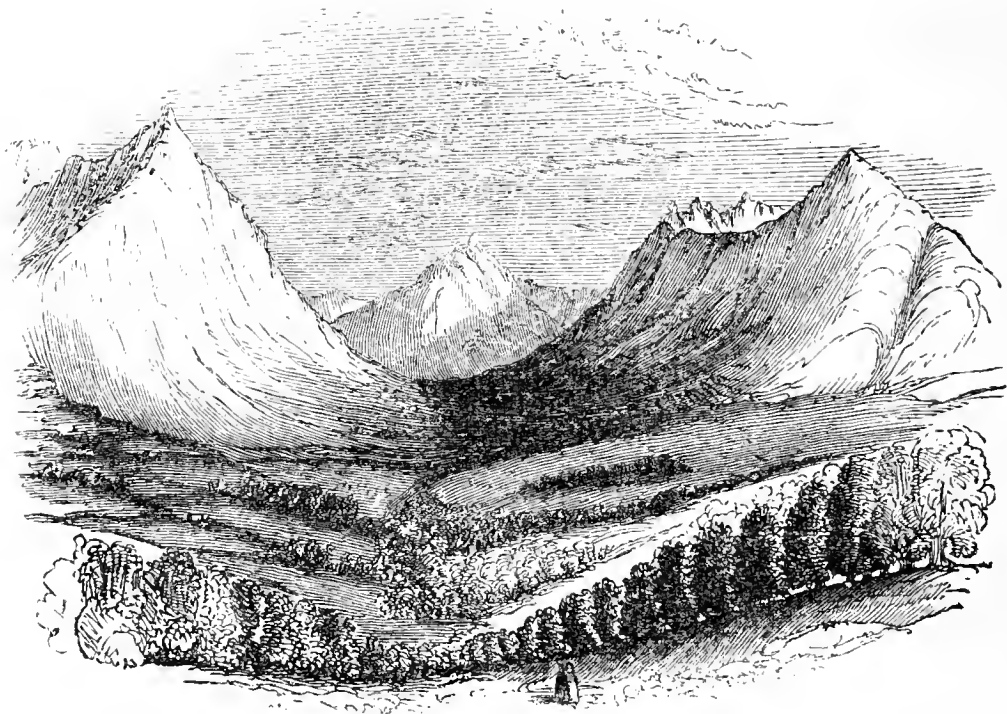
Supposing, however, it is desired to render the excursion more complete by including Glen Rosie, this will take nearly four hours. The descent is decidedly difficult, but not dangerous. The path avoids the high and rugged peaks by winding along near their base. Though the intention is to descend to the pass betwixt Glen Rosie and Glen Sannox, the ridge (2250 feet) at the head of the White Water Glen (the gap in the centre, the second from the right,) ought to be visited. To do this will only add an hour to the walk, and the view thus obtained is so peculiar that it ought on no account to be omitted.

It excels that of the summit of Goatfell in sublimity, and impressiveness. Stern and wild as is the scenery immediately around Goatfell, it is everywhere encircled with beauty. Here the dark and terrible reign; huge grey rocks tower far aloft on either side; great savage mountains, so high and yet so near, are all around; the yawning depths of Sannox beneath; wild desolation everywhere; while the hush of perfect stillness is only broken by the hoarse gurgling murmurs of the far distant running waters. This union of the solemn, the mysterious, and the solitary, with the dark, the wild, and the sublime, surprises and awes the soul, inspiring a feeling akin to terror. Those who prefer this view to that of Goatfell consider it an illustration of the rule that in Alpine districts the finest views are not

obtained from the summit of mountains ; but from some one or other of the lower peaks.

The path during the greater part of the descent from Goatfell to Glen Rosie lies on the Rosie side of the rocky ridge. Within 150 yards of the pass between Glen Rosie and Glen Sannox a position is reached commanding both glens. Mark with what accuracy they are hollowed !—how smooth their sides ! and how strikingly they resemble two great ships lying on the stocks !

From the saddle to Invercloy will occupy two and a-half hours.



G L E N   S A N N O X .

## CHAPTER V.

### G L E N   S A N N O X .

THE walk from Invercloy to Sannox is very pleasant. At the bridge you pass the foot of Glen Cloy. At the end of the houses beyond is the entrance to modern Brodick. In front of the schoolhouse is a statue of the late Duke of Hamilton, whose fine taste was only equalled by his munificence. To the former, Arran is indebted for many improvements to its landscape; to the latter for schools built and endowed in various parts of the island—the excellent and commodious building before us being of the number. I may add that the Duke ascended Goatfell from Brodick Castle in fifty-five minutes. A very short distance

further on a footpath will be seen leading to a wooden bridge over a stream. By taking this a quarter of a mile is saved. At the end of the wood on the left, after the highway is gained, began in former times the street of Brodick. The situation was very pleasant ; but the houses obstructed the fine view of Glen Rosie here enjoyed. The two-story house on the left, when the beach is reached, was once old Brodick Inn.

There are many caves in the rocky boundary which mark the old sea beach. The finest are a little beyond Corrie. In winter these are at times adorned by icicles and pillars of ice from six to twelve feet long. The pillars are produced by the icicle being extended by the drop till the floor is reached. They have a very beautiful and fantastic appearance as they glitter in the rays of the sun.

On the right, at the point where Sannox Glen comes in sight, is a rocking stone—a huge conical granite boulder thirty tons in weight. (*See Vignette to Chapter I.*) The writer has seen an Arran man rock it like a cradle.

The mouth of Sannox being reached, the visitor ought not at once to ascend the glen. He should first pass to the north side of the stream, and enjoy the magnificent view to be had in passing up the highway from the rustic bridge to Sannox farm house. Of this one never tires. Its interest is enhanced by its variable character, for like the sea it is rarely two days alike. Glencoe is dark, gloomy, terrific, and depressing ; but these fine peaks are sublime—they elevate and inspire the soul.

Perhaps a still better point of view is from the upper

corner of the field, at the foot of the wood on the right side of the road. The arrangement of the mountains is as follows :—Suidhe Fhearghas at the foot of the north side of the glen; next, the Castles; further west, Caisteal Abhail (also a castle); in the centre, at the head, Cir Mhor; on the south North Goatfell; while Cioch na h-Oighe guards the foot—a grizzly sentinel. In the vignette to this chapter, as from the highway a little beyond Sannox farm-house, Beinn Tarsuinn, a continuation of the Beinn Nuis range, is seen on the left of Cir Mhor.

To see Sannox properly requires three or four hours. The upper part of it is very soft and wet. Those visiting it, if driving, ought to be provided with a change of boots. The road to it leaves the highway a little south of Sannox stream.

The first object of interest after leaving the public road is a mound-tomb, probably Norwegian. The next the burying place of the district, where was once a chapel dedicated to St. Michael. A rude image of the saint may still be seen at the gate, on a stone built into the outside of the boundary wall.

Should Sannox be visited in August, notice the magnificent patches of purple heather (*Erica cinerea*) on the slope of Suidhe Fhearghas. Mr Wallace in his work “The Malay Archipelago” writes, “The bright colours of plants have a much greater influence on the general aspect of nature in temperate than in tropical regions. During twelve years spent amid the grandest tropical vegetation, I have seen nothing comparable to the effect produced on our landscape

by gorse, broom, heather, wild hyacinths, hawthorn, purple orchises, and buttercups." How gorgeous is the whin (gorse) *at the coast* in May ! In sunshine it is perfectly dazzling. How pleasing, as well as striking, is a bank of green grass bestudded with purple orchises mingling with the golden bloom of buttercups and marigolds. The writer has visited the orange groves of Italy, Spain, and the north of Africa ; but even these trees, "whose apples are gold," did not appear to him more beautiful than, amid birchen copse, the rowan (mountain-ash), with its smooth branches, its clear green leaves of "airy gracefulness," and berries of coral-red outshining in brightness spring's richest blossoms.

When the remains of a Barytes Mill are reached (which cannot fail to be recognized), it will be well to cross the stream, then follow the tract, as doing so will greatly facilitate progress. It runs close to the side of the stream. After entering the glen one is rather disappointed with the view. It is different as the top is approached.

" Lovest thou solitude 'midst scenes sublime ?

Here take thy fill ; for having left the bay,

And the soft landscape close upon the shore

A grander, wilder, lonelier Highland glen

Thou nowhere canst behold."—*Dr Landsborough.*

When Goatfell and its dependent ridges are seen on the left, and on the right Caisteal Abhail and the *whole* sweep of the Castles : when also the *whole* of the slope directly opposite on the left is no longer in sight—the middle portion beginning to be hid, Glen Sannox in all its grandeur is in view. "This is landscape beyond the reach of art. It is

the sublime of magnitude, and simplicity, and obscurity, and silence. With the exception of Coruisk in Skye, or the far-famed scenery of Glencoe, or of some of the scarcely accessible glens which lie about the sources of the Dee, Scotland contains no scenery that can be compared, in this style, with Sannox."—*Macculloch's Western Islands of Scotland*.

Though the spot now reached seems very near the top, it would be a full hour before that corrie, on the right, at the head of the glen could be gained. It is beyond comparison the most secluded spot in Arran. Would you enter this sublime retreat? Ascend the glen to the patch of very green grass at the foot of Cir Mhor; pass along the mountain's base to a little streamlet; continue the same direction for a few yards, and the breast of the cliff will present no difficulty; return to the streamlet; pass into the centre of the corrie, and ascend a little stream till Goatfell is fully in view. Sea and plain have now disappeared. Mighty mountains—The Castles; Caisteal Abhail; Cir Mhor; North and South Goatfell; and Cioch na h-Oighe, completely encircle. Goatfell looks very grand; but the feature of the scene is steep, frowning Cir Mhor. From no other spot is it so overwhelming.

The writer on one occasion visited this corrie in the month of January. The ground was covered with snow, though in the lower parts the snow was not discernible, having sunk beneath the heather. Higher up there was no heather, and the tops and upper slopes were mantled in this garment of purity. Nothing could have been more



truly Alpine. The sun was beginning to go down, and his setting rays tinged with their own hues the mountain ridges, while beneath the shade darkened with the corrie's depth. The whole resembled a vast silver goblet, the bottom stained by wine ; the upper part displaying the pure metal, while the most delicate shades of gold formed its rim.

The corrie is remarkable for its echo. In very still weather, a person with a good ear will hear a sound repeated four or five times, each succeeding response coming from a greater distance.

The ridge between Cir Mhor and Caisteal Abhail, separates Glen Sannox from Glen Iorsa. It is not difficult to climb, and from its crest Cir Mhor is of easy ascent.

At the head of Sannox glen some good plants may be gathered by passing along the base of the rocky ridge at its summit. The east side is most productive. In the centre will be found among the short heather the oak fern (*Polypodium dryopteris*), the most elegant and beautiful of all British ferns. The writer remembers seeing it among a collection of ferns grown in one of the houses of the Glasgow Botanic Gardens, and it was gratifying to observe that though there were specimens from all parts of the world, not one of them was more beautiful than itself. But the exposed side of Glen Sannox is not the place to see it, for here the sun has looked upon it, and so exquisitely delicate is its sensibility that this completely destroys its beauty. Alight upon it growing in the fissure of a rock on the shady side of a sweet dell ; then its tall, wire-like purple stem raises aloft a canopy so filmy in its nature, and so vivid in its green, that

the fairies could have no more appropriate palm when they walk in holiday procession.

The visitor may now retrace his steps, unless he is tempted to botanize, or resolves to cross the ridge to the left and return by Glen Rosie. Appearances in such a glen are very deceptive. It will take more than three-quarters of an hour's good walking to gain the crest which seems so near. A friend of the writer, having walked by the coast from Brodick, and ascended the glen till a little above the Barytes Mill, found that he was likely to be late for dinner, and resolved to redeem time by taking a short cut home over the ridge, but to his cost he discovered that of all the *shortcuts* he had ever attempted this was the longest. His nether limbs were clothed in white, but what with peat mud, the stumps of burnt heather, and a liberal supply of water, when Brodick was at length reached, the white had become black, and that more striking than elegant in its variegations.

If time does not press this walk should be taken. Let  $2\frac{1}{2}$  hours be allowed for ascending from the entrance of the glen to the saddle. It is situated on the left side of the head of the glen betwixt Goatfell and Cir Mhor, and the path, which is gravelly, is up a whin dike on the *right side* of the centre of the saddle; the direction at first being as if it were Cir Mhor that was to be climbed. There is another path a little shorter. It is up a better-marked whin dike, slightly on the left side of the saddle. Here are the *stirrups*. It is a wild-goat ascent, and, unless one be a good climber, should not be taken if

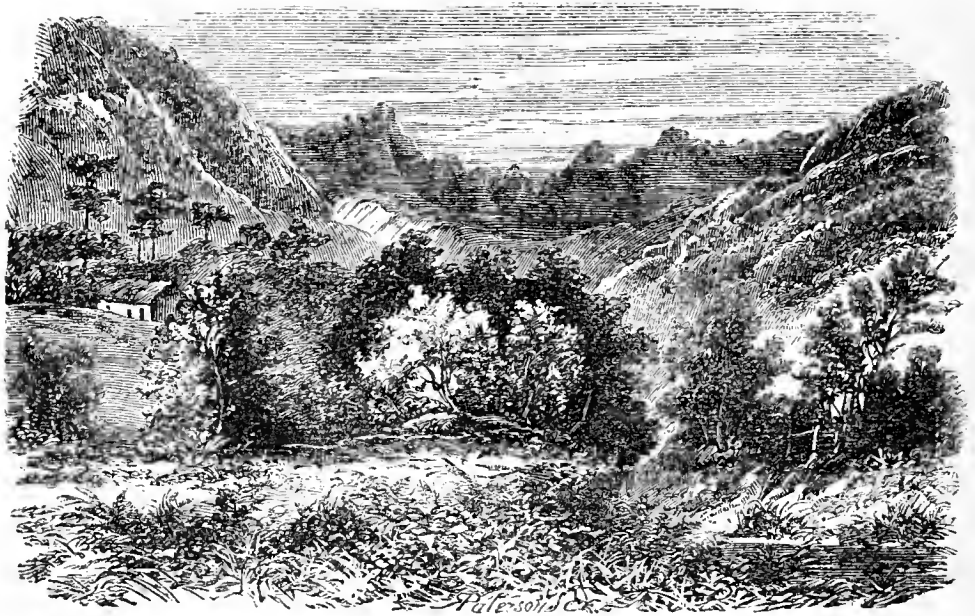
life and limbs are of more value than those of that animal.

The crest is a most solitary spot. "We survey the desolation by which we are surrounded, and become sensible of our isolation from human dwellings, human homes, and human sympathies, our loneliness with nature, and, as it were, the more immediate presence of God."—*Professor Forbes*. "Here let the visitor linger amid the precipices, and surrounded by the grey peaks of the solemn hills, reflect that with all their appearance of majesty and power, day by day they are crumbling into dust, and even now the landscape, on which he mutely gazes, is imperceptibly yielding to the never-dying principle of change, and the time will surely come when with all its varied features it shall have passed away and left no trace behind."—*Prof. Ramsay*.

Before leaving, climb to the spot mentioned in the previous chapter. It is a hundred yards up the slope to Goatfell, and commands the view of both glens, though not with the grandeur of the central view-point of the scene—the throne-like summit of the lofty, precipitous, and, from this side, all but unscaleable Cir Mhor.

The descent towards Brodick is easily made. Invercloy Hotel, seven miles distant, may be reached in about 3 hours.

Wet shoes should be greased *before* being dried. No shoe-ties equal to porpoise. Sparables are better than tacks. Shoe-soles should not exceed half-an-inch in thickness, nor heels an inch. In walking the foot should be kept cool and the ankle have free play, therefore shoes are to be preferred to boots.



ENTRANCE TO GLEN ROSIE.

## CHAPTER VI.

“Trace thence Glen Rosie, as like beauty coy  
Softly retiring with most winning grace,  
She winds her way amidst romantic hills,  
Till lost in wildest, deepest solitudes.”—*Dr. Landsborough.*

### GLEN ROSIE AND BEN NUIS.

**I**N Arran Glen Rosie yields only to Glen Sannox in grandeur. In visiting it take the road passing the front of Brodick Church, and follow it and the path to which it conducts to a stream crossed by a little bridge—a distance from the church of slightly less than two and a-half miles of ground, generally level and firm. Unless you intend to ascend to the pass between Glen Rosie and Glen Sannox, you need not go further, as you have reached the spot where the view is finest. For description of the glen see Chapter XI.

The present Chapter will give directions for a visit to Ben Nuis, &c.

Pass the front of Brodick Church, and after crossing a stream, a few yards beyond, ascend by its side Glen Shurig for half a mile. A little stream here joins it from the right, ascend it, for a time, by the end of a wood. When the *source* of the stream is gained, make for the highest eminence in the same direction. Here the view is most magnificent. From it also the course to be taken for Ben Nuis, Loch Nuis, Glen Iorsa, Loch Tanna, Loch Ranza, or Catacol, lies mapped before you. From Invercloy Pier to Loch Nuis occupies 3 hours, Loch Tanna 5, Loch Ranza 7, Catacol the same as Loch Ranza. To-day we visit Ben Nuis.

Ben Nuis is separated from Glen Rosie by the Ben a' Chliabhain range (2141 feet in height), and by the glen on the left of this range. In passing to its base keep well up the hill thus avoiding soft ground and gullies. The ascent, though toilsome, is not difficult. Five lochs are visible from the top—Loch Nuis, near the foot of the mountain on the south-west; Loch Iorsa, the largest of those tarns in the bed of the Iorsa stream; Loch Tanna, and Loch Dubh on the side of Beinn Bharrain; and Loch Cnoc, far south on high ground east of Shedog.

On the eastern side of the summit is the highest and most perpendicular precipice on the island, and a steady head is needed to stand on its brink and gaze into the abyss below.

“ Approach the verge  
Of that dread precipice : with care approach,  
For one false step, and downward we are hurled :  
Dashing from cliff to cliff.”—*Dr. Landsborough.*

This place is a favourite resort of the raven, and by imitating its hoarse croak it may be attracted, and made to circle all around. How well it looks as it mounts aloft, and then sweeps past in its descent into the gulf beneath—its glossy dark purplish feathers shining in the sun, while its decreasing size gives some idea of the depth into which it has plunged! One wishes that the eagle, as of old, had its aerie on that steep crag, and that it was the nobler flight of the “Bird of Jove” that was gazed upon.

As it is easy to pass northward—as fine views of Glen Iorsa and one of the heads of Glen Rosie will be added, while a very grand range of precipices will be seen in new and interesting aspects, and an elevation be reached more than a hundred feet higher than Ben Nuis—it will be well to continue the walk to the extremity of the range, and return by the valley. At Ben Tarsuinn, its highest and last peak (2706 feet) the sight is most imposing; for in addition to the whole sweep of the Iorsa valley there is a fine view of a nook of Glen Rosie, 1500 feet beneath, while the Ceims and Cir Mhor from its further side rise, quite at hand, in hoary and desolate sublimity,

Should you resolve to proceed to Cir Mhor, *keep well to the left* in going down the steep shoulder of Ben Tarsuinn. Next descend either to the corrie on the right or to that on the left. The former is reached by going along the saddle to where the bare rocks of the Ceims commence, where descend. The next ravine is more difficult; the third—the finest gorge in Arran—dangerous. Those further on are impassable. Beware of venturing to pass along the Ceims to

Cir Mhor ; for a precipice renders this impossible, and these great slabs of granite on its slopes are most dangerous, all the more so that they are not very steep, and one is apt to venture upon them. They are slippery, and if once a footing is lost, it may be impossible to regain it. Credit one who has examined them thoroughly, and been more among them than he would choose to be again. They are the most perilous rocks in Arran. Avoid everywhere shelving rocks and polished slopes. Remember it is much more difficult to descend than to ascend, and that you may ascend to that from which you *must* descend.

Should you decide to advance no further than Ben Tarsuinn, still proceed 450 feet down its northern slope, and then take to the right by the steep Bealach an Fhir-bhogha (the Archer's Pass). From the ridge to which this path conducts, the valley is easily reached. Moving down, mark the depth to which the Garbh Allt (Rough Water) stream has hollowed out its channel along a trap dike, and the perpendicular height of the granite walls by which it is bounded. Follow the stream to Glen Rosie, thence back to Brodick.

The whole excursion will have occupied eight hours. From Invercloy to the top of Ben Nuis, about four and a half hours ; Ben Nuis to Ben Tarsuinn, three-quarters ; Ben Tarsuinn to Invercloy, two hours and three-quarters.

A most attractive forenoon or evening walk will be had by taking the road which passes Brodick Church and following it to the Glen Rosie wood, which enter, and take the path, whose course is parallel to Glen Rosie, to the highest part of the wood (500 feet), at a distance of one and a-half

miles from the Church. The view from this point is pronounced by so competent a judge as James Paterson, Esq., Whitehouse, one of the very finest in the whole island, and is superior to any to be had by passing up Glen Rosie. Right in front lies Glen Rosie, while the panoramic view of the surrounding mountains is truly superb. In outline they are much the same as when seen from the ridge of the Lamash Road; but now they are beheld much nearer, and the heart of the deep glens being visible there is added greater variety of shade and colouring; while the mountains rising almost perpendicular from the depths of the glen, look more sublime.

One of the famed walks in Arran is up Glen Rosie and down Glen Sannox. To all, this walk is notable for the pleasure enjoyed amid the fine Alpine scenery that surrounds the Saddle. To not a few it is also memorable for the fatigue endured, and it may be also for the alarm felt at the break-neck descent from the Saddle into Glen Sannox. The fatigue cannot be avoided, and it is much greater than one would anticipate from the distance. The alarm may, by ascending at the Saddle two hundred steps to the left; or, what is almost as good, by ascending the same distance to the right, in which case join, as soon as possible, the foot of the other paths.

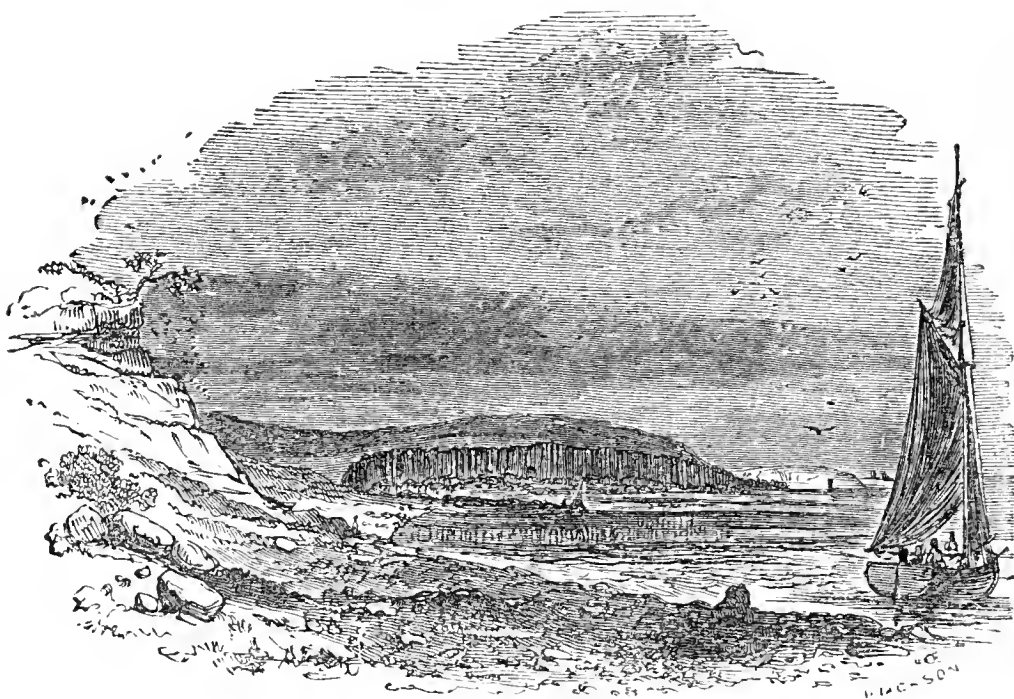
The following time-table will give an idea of the walk: Invercloy Pier to Garbh Allt, 1 hour and 15 minutes; Saddle, 4 hours; Foot of Sannox Glen, 5 hours and 50 minutes. The time spent on the Saddle is not included.

The walk may be varied by passing from the Saddle



between Glen Rosie and Glen Sannox to that between Glen Sannox and the White-water Glen. Corrie will, by this route, be reached about a quarter of an hour later than by the other. In all its grand features, the White-water Saddle is decidedly superior to that between Glen Rosie and Glen Sannox. It may be comparatively easily reached, as the length of the White-water Glen is only two and a quarter miles, while that of Sannox is three and a quarter, and Glen Rosie five. (See pp. 30 and 60.)

Frequent drinking of cold water is injurious. Gargling is in general more refreshing, and perfectly safe. Cold tea is the best thirst-quencher in climbing mountains. Stimulating drinks cause thirst, and are hurtful in every way.



DRUMADOON COLUMNAR CLIFFS.

## CHAPTER VII.

### THE KING'S COVE AND THE STONE CIRCLES.

THE two objects of pre-eminent attraction on the West Coast are—"The King's Cove" and "The Stone Circles." These are so near to each other that they can easily be visited on the same day.

They are reached by crossing the island by the "String Road," which turns up the hill at Brodick Parish Church, and passes up Glen Shurig, and down Glen ant-Suidhe. At the Letter-pillar the road divides—that which crosses the stream leads to Dougrie; the other, which follow, to She-dog.

About a mile and a quarter beyond the Letter-pillar the stone circles come in sight, at right angles to the road, and

the nearest at a distance of a mile. Immediately after passing Shedog take the road on the right. It crosses the Blackwater and conducts to the Free Church. At it strike up the hill-side, keeping *in a line* with the road from Shedog to the Free Church, from which the Coves are one and a fourth miles. At the top of the intervening ridge mark on the left the fine appearance of Drumadoon's wall-like front. The ancient Arranites took advantage of this, for they built a very strong wall across the land side of the hill, and thus formed a spacious and, in these days, almost impregnable stronghold. On reaching the coast a place will be seen where the cliffs appear as if they had been broken off and carried forward, so as to form a point. Descend through the breach. You are at the beginning of the Coves. To the finest of them deep interest is imparted by the tradition that it was occupied by King Robert Bruce on his landing from Rathlin in 1307, before the successful descent upon Ayrshire, which resulted in the deliverance of his country, and his elevation to the Scottish throne. Realizing how desperate were his fortunes at this period, he rises before the mind pacing the lonely beach, care-worn and weather-beaten, yet with resolute purpose stamped on every feature of his noble countenance; and the visit to this sea-worn cave suggests the lesson, that the brave ought never to despair of a good cause. It gives pleasure to recall the fact, that in after years, the Patriot King was in the habit of returning to Arran to enjoy the amusement of hunting the red deer, wild goats, and wild boars, then abounding in its still wooded glens. In 1326 is entered in the Cham-

berlain's accounts the sum of two shillings, paid "to six men for passing over to Arran with a ship to the king."

At the head and on the sides of Bruce's cave may be seen various figures cut on the rock—the most conspicuous being that of a claymore (great sword).

The other caves have also names associated with "The Bruce"—the large one to the south with two entrances is the "King's Stable," the smaller ones to the north "The King's Kitchen, Larder," &c. The height above is also named Torr Rìgh (the King's Hill).

"One as brave as bravest Gaelic chief,  
Arran ! once trod thy shores, and traces left  
Which countless centuries will not efface."

—*Dr Landsborough.*

The fine precipitous headland in sight northward is that of Imachar, halfway from the Coves to Catacol. Returning by the Stone Circles does not add to the distance, while it imparts great variety to the trip. To do so ascend the cliff by the path at the northern extremity of the Coves, and follow the road, northward above the cliff, to the first house, where ask the way. One granite circle, and two upright stones, are seen ere the crest of the hill is reached. When it is gained the group stands in front. "With the exception of those in Orkney, and the Island of Lewis, they are the best preserved in Scotland."

There are six circles more or less perfect—one of them being a double circle. It is named Suithi-Choir-Fhion, (Fingal's Caldron Seat,) and proves that the giant was accustomed to a respectable supply of broth for himself

and his family ! The tallest of the stones is  $15\frac{1}{4}$  feet in height above ground. One of the stones, like the famous stone of Odin, in Orkney, is perforated. The Highlanders say the hole was made to fasten the giant's famous dog Bran. In Orkney, lovers passed their clasped hands through the sacred stone, and plighted themselves, regarding their having done so as the most binding of all oaths.

The stones of some of the circles are granite, and have been obtained from an adjoining moor. Others are slabs of old red sandstone, which cannot have been procured nearer than about one and a-half miles. When it is considered that the intervening country is rough and difficult, and that the largest of the stones is from eight to ten tons in weight, it will be seen how great toil the circles must have cost in ancient times.

Dr. Bryce, by digging at the centres of the circles, discovered cists containing skulls, and other human remains; hand-fashioned urns; flint ("not found in Arran, but abundant in Antrim") arrow-heads; and a bronze pin in a cist among the remains of a young female. The circles probably commemorate a battle, and those who fell. Others may afterwards have been buried in the same place.

On the farm of Drumadoon, a little to the north of Blackwaterfoot, is a memorial of a different form. The people of the district call it "The Stone Chest." It is a dolmen (*daul*, a table, and *maen*, a stone)—a monument formed by several columns capped by a huge block of stone, forming a recess below, where the cinerial urn or bones were

deposited. This is a trilith (dolmen of three stones) consisting of a huge block of red sandstone resting upon two smaller ledges, and enclosing an area or chamber of two feet square. The chamber was dug into some years ago, and a red flowerpot-shaped urn of unbaked clay discovered contained burnt bones. According to tradition the daughter of Ossian was buried here.

There are also funereal cairns and barrows (differing from cairns in being composed of earth) in this neighbourhood. Monoliths (single stones) are found in all parts of the island. Some of them were doubtless boundary marks; others cat stones (*cath*, a battle); many of them tombstones. At Auchencar (the field of the stones) there is a menhir (*maen*, stone, and *hir*, high) of granite, 18 feet above ground, and not exceeded in height by any ancient monolith in Scotland. It had a companion of equal height, but it has fallen.

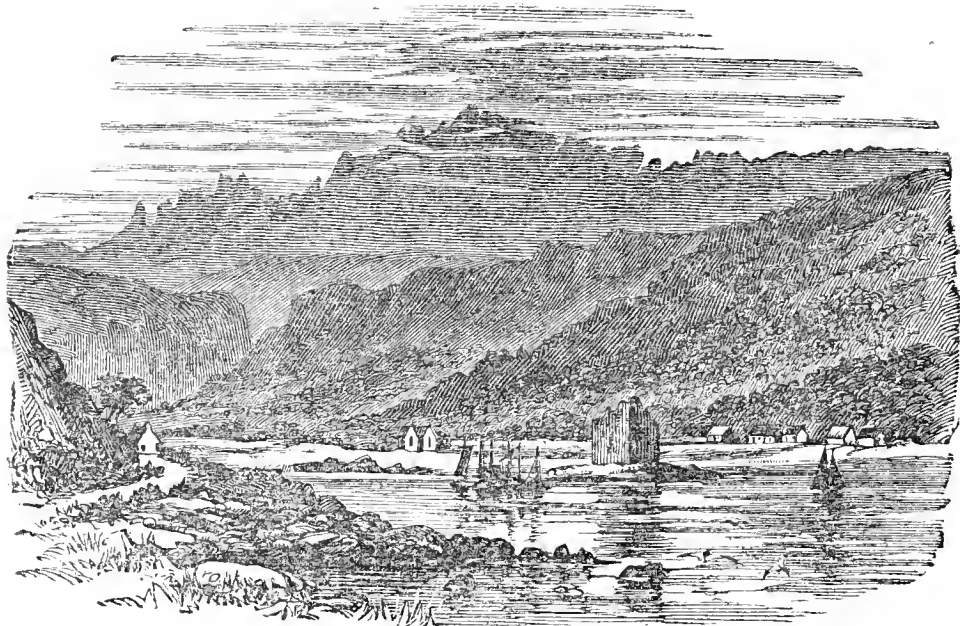
Before taking leave of these time-worn and venerable memorials, realize for a moment the associations they are fitted to awaken. Viewed from a distance they make slight impression; but when in this lonely moor we stand beside these great witness-bearing stones, and mysterious circles, our minds are solemnized—the dim, distant past, with its misty shadows, rises before us, and we reflect upon the many generations which have come and gone since the fair daughter of the chief of an unknown race wore that simple ornament which now touchingly recalls her to our memory.

From the farm-house, at the Stone Circles, a road conducts to the Machrie Water. Thirty yards below the ford

it may be crossed by any one who can take a step of three and a-half feet, where there is ordinarily no deep water beneath to terrify. From the ford there is a cart-track to the road between Dougrie and Brodick. The step mentioned across the Machrie has been lately made by cutting a narrow channel for the water. But three-quarters of a mile further up the stream there is one of Nature's forming, which, before the construction of bridges, was of great advantage to the inhabitants of this district, for by it, even when the water was at highest flood, the river could be crossed by a step of only two feet. But this step, called "The Goat's Leap," is more formidable than might appear, for beneath it the water dashes and foams in a pool full ten feet in depth. The Goat's Leap was in constant use when Headrick visited Arran ; and he tells of a woman who, after she had planted one foot on the further side, having looked on the roaring flood beneath, her courage failed, and there she stood and would have remained standing to the present day had not some one come to her relief !

The Clauchan-glen churchyard (near Shedog) is rendered interesting by a tombstone, with a rude figure of an abbot, with chalice and pastoral staff, but it has no inscription.

The finest view in the southern part of Arran is from the top of Ard Bheinn (1676 feet)—the highest peak above the Post Office.



LOCHRANZA.

## CHAPTER VIII.

### PLACES OF RESIDENCE.

**W**HITING BAY cannot boast of grandeur; but it is possessed of a quiet sweetness which is very pleasing. The atmosphere is pure and bracing; the sea beach suitable for bathing; and there is sea-fishing—hence its name.

*Objects of Interest.*—From this place a very distinct view is obtained of the vessels which visit the Frith of Clyde. After a storm the sight is magnificent. Then the numerous ships, which have been compelled to take refuge in Lamash Bay, issue from their place of shelter, and under spreading canvas, like birds on the wing, direct their course to the great ocean. More than half a hundred may at times be counted between the Holy Isle and Ailsa Craig.



Whales, following the shoals of herring, occasionally visit the bay. During summer it is pleasant to watch the solar-geese (gannets) sailing to and fro high above the blue waters, and on sight of a fish, it may be far beneath their surface, swift as arrow from the bow, plunging upon its hapless quarry. Soon the gannet reappears, holding crossways the captured fish. Casting it into the air, it catches it by head or tail as it descends, and gulps it up. In winter the gannets disappear; but then it is interesting to observe the gulls, now upon short-commons, seizing shell-fish, and after soaring with them aloft, letting them drop over a bed of stones. Should they not be broken by the process, they are dropped from a greater height; and if still unbroken, dropped from a height higher still.

*Places to be Visited.*—From Whiting Bay a delightful excursion may be made toward the south. The objects of interest are—The precipitous ridge of columnar rock, commencing at Largybeg and running parallel to the road for about a mile, “resembling, though on a smaller scale, that of Mull and Antrim”; Port of Leacach (Pavement Port), the pavement of basalt on the beach, “bearing some resemblance to that of Staffa and the Giant’s Causeway;” the Duke’s finely situated lodge at Dippin; Kildonan Castle, a square four-storied keep, a royal residence till 1405, and probably built in the time of the Edwards, as one of a line of watch-towers reaching from Ailsa to Dumbarton rock; Pladda, and its handsome lighthouse; Eas-a’-Mhor (the Great Water-fall) 73 feet in height, in the centre of a semicircle of precipitous rocks, and displaying, when viewed from a particular

spot, a circular rainbow on its descending waters ; Bennan Head, with its fine cliffs, 457 feet in height, where is the largest cave on the island ; Lag, a snug retreat with a nice little inn, where comfortable accommodation may be had and a few days happily spent among the pleasant scenery, the bold promontories, the trap dikes, the beautiful and rare wild flowers, the shell beds, and the antiquarian remains of this district.

*Eas-a-Crannaig* (Waterfall of the Wood), a mile and a quarter up the sweetly secluded Glen Eaisdale, is the finest waterfall in Arran. It is reached by a peat road, which leaves the highway a fifth of a mile north of the mouth of Eaisdale stream. Keep this till at the end of a part of the road where there is a cutting through red sandy clay, and ere the cultivated fields on the right are out of sight, a break in the wall on the left communicates with a ferny path conducting down the wood. Follow it to the stream side, where turn to the right for a few yards, and here stepping-stones will be seen, by which cross the stream ; and having climbed by the opening in the opposite bank, join a path there found, and ascend by it to a spot immediately above the waterfall, where descend cautiously till the bottom of the fall is visible. This is the finest view of the fall. Return by the path through the wood on the south side of the glen.

Had the stream-side path on the north been followed, the foot of the fall would have been reached. From it another path along the base of the cliff leads to its top. The lower fall is 90 feet, the upper 46.

*The Giants' Graves* are situated on the hill side, half a

mile south-west of the mouth of Glen Eaisdale. There are three of them, and their appearance fully justifies their name. Mr Paterson, owner of the beautiful villa of Silverbank, who directed my attention to them, has kindly furnished the following measurements :—"The largest is twenty feet in length, and about two and a-half feet in breadth. It is formed by four parallel blocks of stone on each side, the largest being nine feet long and two feet thick. The head and foot of the grave are closed in a similar way. The top has been covered with four stones which still lie at hand ; one of them six feet nine inches long, six feet broad, and eighteen inches thick, still partially covers the grave. The largest stone weighs about ten tons." The grave looks as if for one person : but those who do not believe in giants will probably conclude that it has been prepared after a battle, and that numbers of bodies have been interred. Near to the graves is a cairn, or the foundations of an old fort, with a stone-tunnel entrance.

*Kingcross Point* is by the shore two and a quarter miles north from the mouth of the Eaisdale stream. It may also be approached by a road which turns towards the sea, at the commencement of the long level moor between Whiting Bay and Lamlash. It is remarkable as the spot at which King Robert Bruce embarked when he made his successful descent upon Ayrshire. It is said that it was in a hut which stood here the wise king was taught never to despair, by the patient, persevering efforts—seven times repeated—of a spider. Overlooking the landing-place are the foundations of an old fort.

LAMLASH.—There is ampler accommodation for visitors at Lamlash than at any other place in Arran, and during the season it is always full. The air is good, and the place admirably adapted for boating. There is fishing, though not equal to what it was when Buchanan published his History of Scotland, nor even to that in 1703, when “Mr Martin, Gentleman,” wrote his “Description of the Western Islands of Scotland,” in which he tells us “there is a great fishing of cod and whiting in and about Lamlash.” He adds, “The inhabitants of Arran are composed of several tribes. They all speak the Irish tongue, yet the English tongue prevails on the east side, and the minister preaches in it; but in the Irish in the west side. I did not hear an oath on the island. They are all Protestants. They observe Christmas, Good Friday, and Easter. There are about 400 deer on the island.”

There are several attractive walks in this neighbourhood. The Whiting Bay road is very fine; and the view from the part overlooking Lamlash Bay magnificent. Inland is an excellent road to Sliddery. There is also an old road to Lag, which on the height above Lamlash commands a noble view. The part betwixt Lamlash and the farm-house of Auchareoch is now so undefined that a stranger could not follow it.

*Loch Urie* is three miles from Lamlash, and three-eighths of a mile north of the old Lag road.

For a pleasant stroll on an evening go along the north shore till a little stream is passed below the Manse; cross this and take the first road to the left. It conducts to the

churchyard, and the ruins of the old church of Kilbride, built about the fourteenth century. Return by the road which leads to the Brodick and Lamlash highway.

*Clauchlands Point*, the northern extremity of Lamlash Bay, is two miles from the quay. Opposite the point is the Hamilton Rock.

*Dunfion* is  $2\frac{1}{4}$  miles from the quay. One may continue the Dunfion road to Brodick Free Church, and return by the Lamlash and Brodick road—a circuit of seven miles; or on a fine day you may pass along the ridge from Dunfion to the Brodick and Lamlash road—a distance of two miles of magnificent scenery.

*Holy Isle*—Five miles in circumference, and  $1\frac{3}{8}$  miles from Lamlash quay, is a favourite place for a boating excursion. It derives its name from having been at one time the residence of St Molios, whose cave is still to be seen about a mile south of the landing-place. There is a spring of excellent water close by the cave. St. Molios was born in 566, A.D. Adders were not banished by the saint from the island.

**BRODICK.**—This is the paradise of Arran. In no other part of the island is the scenery so picturesque, beautiful, and sublime. Nor is it necessary to travel far to enjoy it, for it is everywhere around. One never tires of the walk from the pier of Invercloy to that of Brodick. What a pity it is not possible to return by the shore!

The part of Brodick which combines the largest number of advantages is Strathwhellan, and the houses in a line with it. Here the view is finest, the air bracing, and

the place protected from the cold east wind, which in spring often beats furiously on the Invercloy shore, but after striking below, has its force so dissipated that the slopes above enjoy almost a calm.

On Invercloy shore, the cliffs parallel to it, and on the intervening wet ground, grow many beautiful and interesting plants. So also at the head of Glen Dubh, further remarkable for the foundations of Bruce's Castle, on the first of a series of mounds, named by the natives Torr-an-Schian (The Fairies' Mound).

Arran is to many associated with the pleasures of the chase—not it may be of the deer, wild goats, and boars that King Robert Bruce delighted to pursue. Yet who will say the enjoyment of the schoolboy or zealous entomologist is less when, net in hand, he hunts the winged beauties of summer and sunshine—the light, elegant, and beautifully painted butterflies. How exciting it is when his eye catches the rapid flight of the dark-green Fritillary (*Argynnis Aglaia*), with under-wing of softest yellowish green, adorned with patches of glittering silver; or it may be the Painted Lady (*Vanessa Cardui*) with her beautiful eye-like circlets, her fine pencillings, and harmonious tinting! How, with eye intently fixed on the brilliant prize, o'er bank, bush, and brae, the eager chase is pursued! Dr Landsborough relates, in connection with this, an amusing anecdote of one who was an able teacher and profound writer, and also an enthusiastic fisher and entomologist—the late Dr Connel of the High School of Glasgow:—"On one occasion, having, among the hills, started a rare butterfly, he pursued it

insect-net in hand, and getting hot, threw off his coat and continued the chase, till he had made the wished-for capture. He then returned to pick up his upper garment, but it was nowhere to be found. Looking round in every direction, he at last discovered that some cows he had passed on the hillside had eaten it up “stump and rump,” except some rags still hanging from their mouths as proof-positive against them; so that he had to wend his way homeward *sans* coat—thankful, it may be, that it was not also *sans culottes*, though this would not have been very extraordinary in the Highlands !”

Returning to Arran the succeeding year, on a day too cold for entomological pursuits, he engaged in another favourite amusement in one of the numerous trouting streams. Meeting a Highlander, who had been angling like himself, the “Doctor invited him to partake of some good cheer he had brought in his pocket. During the repast, the Highlander said to him, “Ye’ll no belang to this place?” “No,” said Dr Connel, “I do not.” “Ye’ll be frae Ayrshire or Greenock maybe?” “No,” was the reply. “Ye’ll be mair to the eastward—frae Edinburgh, or maybe frae Glasgow?” “Yes,” said the Doctor, “I generally live in Glasgow.” “It’s a big toun, Glasgow—I hae been ance there mysel’. Ye’ll never hae been in this place afore?” “O yes, I have often been in Arran—I spent some time in it last year.” “And where are ye staying noo if you please?” “I am staying at ——.” “I ken the place; ye’ll never hae stayed there afore?” “Yes, I stayed there last year also.” “Save us?” said he, looking aghast,

“ye’re no the daft man that was there last year?” “Yes,” said the Doctor, laughing, “I am just the daft man.” He looked at him with a very suspicious eye ; but as the viands were very good, and very acceptable on so cold a day, he continued to enjoy the repast ; convinced that though the gentleman might be *daft*, he was neither unkind nor *uncannie*.”

CORRIE.—Greater retirement than at Brodick ; a mild yet bracing atmosphere, and the proximity of grand scenery, are all to be enjoyed at this place.

It might be thought that Corrie must be much exposed to easterly winds. It is the very reverse. Though it may appear paradoxical yet it is the fact that the great mountains behind Corrie shelter it more effectually than if they were in front. The easterly wind sweeps toward it, as if it would carry everything before it, but ere the shore is reached, it is lifted up, as by an invisible hand, so that while blowing fiercely at sea, on the coast there is a pleasant calm. The proof of this appears in the trees growing luxuriantly to the very water’s edge, and overhanging it with their long branches. As evidence of the mildness of the climate it may be mentioned that in Cromla garden the Oleander (*Nerium Oleander*) stood a winter in the open air without protection of any kind, and flowered well in the greenhouse the following summer—the gorgeous *Rhododendron Nobleanum* is in bloom the whole winter—a myrtle, a standard, planted in 1862, now 10 feet in height, flowers magnificently every season—the great evergreen Australian tree fern (*Dicksonia Antarctica*) planted in 1867 has not suffered in winter, and is now provided with fronds 4 feet in length by 22 inches in breadth—



*Cyathea dealbata*, the most beautiful and only silvered of tree ferns ; the Blue Gum (*Eucalyptus globulus*), and two weeping Gums of Australia ; *Acacia dealbata* ; *A. longifolia* ; *A. stricta* ; and *A. melanoxylon* ; the Beefwood or She Oak (*Casuarina equisetifolia*), “the most singularly picturesque tree of the Australian flora,” being a tree Paddock-pipe ; *Cordyline indivisa*, the Club Palm of New Zealand ; *Elæagnus Japonica*, whose white under-leaf is covered with scales, meriting microscopic examination ; *Benthamia fragifera*, whose fruit resembles a raspberry ; and, to crown all, the fine Australian palm (*Corypha Australis*), which in its native country grows to the height of 50 feet—are all hardy. It may be added that a few years ago the rare and tropical-looking *Trichomanes radicans* (the Killarney fern) was found betwixt Corrie and Sannox. Lamash is almost as favourable for plants. This mildness and equability—the minimum winter temperatures being about twelve degrees above those of Glasgow, while those of summer about six below—render Arran very suitable as a residence for invalids. It is true the rain-fall is great ; but the cold, damp, foggy weather so common in most places, and so injurious to health, is here almost unknown. In confirmation of its eminent salubrity may be quoted a statement of the Rev. Dr. M’Naughton in the “New Statistical Account of Scotland”:—“Of five members of the kirk-session of Kilbride, who died within the last 12 years, one was 92, three 88, and one 79 years of age. The writer has this week (April 1840) attended the funerals of two of his parishioners, one of whom (a female who lived at Brodick) reached the very advanced age of 99 ; the other was

entering upon his 89th year. There are at present living within a mile of Lamlash, and enjoying the unimpaired use of their mental faculties, three men, two of them several years above 90, and the third 85. Mr Paterson, Whitehouse, in his 'Account of the Island of Arran,' in the *Quarterly Journal of Agriculture*, mentions a similar fact of which the writer (Dr M'Naughton) is cognisant, that in the year 1834, 'in a population of less than 400 persons, about the village of Lamlash, there were 16 individuals living, whose average age was  $84\frac{1}{2}$  years, and not one of them under 80.'"

*Goatfell.*—Corrie is the most convenient starting-place for Goatfell. The ascent is made by keeping the highway till it is crossed by the White-water stream, then following the path on its north-side till the water-fall is reached. Here observe at its foot a remarkable junction of granite and slate, then cross the stream and at once ascend the outlying spur of Goatfell in front. At its top the path by which the ascent is made from Brodick will be joined.

*Whitewater Ridge.*—By following the Whitewater to its source, and ascending the crest above, the view mentioned in page 30 will be gained. Close to the stream the ground is firm and good the whole way.

*Fallen Rocks.*—Reached by taking the path which turns to the right as soon as the Sannox stream is crossed. How striking the situation of the little church you here pass and how appropriate to it the language our beloved Queen employs respecting what she terms the "Dear, dear, Highlands." "Independently of the beautiful scenery there is

here a quiet, a retirement, a wildness, a liberty, and a solitude that have such a charm for us." From the church to the Fallen Rocks is three miles. The path passes the upper side of the manse garden ; along the base of the "Blue Rocks;" then by the seaside till North Sannox stream is reached, which is crossed by stepping stones ; after this by the shore. Should the streams be swollen, it will be necessary to keep the highway till about a quarter of a mile beyond Sannox farm-house, when a path will be noticed leading in the direction of a solitary cottage on the opposite side of the glen. It conducts to a wooden bridge across the stream. At a gully immediately before the Fallen Rocks notice a flourishing ash tree growing out the side of the cliff. It has succeeded in rending, by its roots, the rock. They have also bridged the little stream to reach the more abundant nourishment beyond. The Fallen Rocks are produced by the cliff, here of great height, having given way, the fragments of rocks in immense masses being piled beneath in tumultuous and chaotic confusion. A similar fall has taken place at Scridan, four miles further north. Above the Scridan are singular chasms, called "The Fairy Dell," and "The Rents." (Chapter xiii.)

*Caisteal Abhail.*—A very interesting walk may be enjoyed by taking the path leaving the Lochranza road at the north Sannox bridge, following it till the stream bends sharply to the left, where ascend the ridge on the right, and follow it to Caisteal Abhail. Owing to the circular direction of the range, the view is always changing, and no other walk gives so clear an idea of the northern parts of Arran.

Loch a Mhuilian, Loch na Davie, Loch Tanna, Loch Dubh, Loch Iorsa, Loch Nuis, and also three lochs in Càntire, are seen, and, with the exception of Loch na Davie, all from the same spot. At the top one perceives why these eminences are called "Castles"; for they greatly resemble them in appearance. (Chapter xii.) This excursion will occupy about six or seven hours.

*Loch na Davie and Loch Tanna.*—Take the course for Caisteal Abhail, but at the little lochan at the top of the ridge, pass along on its north side, remembering that the lochan is only 218 feet below Loch na Davie. Mark Loch na Davie's peculiarity in having an outflow at both ends. Loch Tanna is 117 feet lower than Loch na Davie. Descend on the right side of Glen Iorsa till the double top of Ben Bharrain comes in sight, then make for it. The distance between the two lochs is two and a-half miles, of roughest walking. Variety may be had by keeping on the north side of Beinn Tarsuinn—the hill on the right where Ben Bharrain becomes visible. A fine view will thus be obtained of Catacol Glen, and the *head* of Glen Tanna be reached.

*Beinn Bharrain*—The highest mountain in the west of Arran, is remarkable for the fine specimens of natural masonry on its western summit.

LOCHIRANZA.—This is the most classic part of Arran.

"The sun, ere yet he sank behind  
Ben-Ghoil, 'The mountain of the wind,'  
Gave his grim peaks a greeting kind  
And bade Lochranza smile.  
Thither their destined course they drew,  
It seemed the isle her monarch knew,

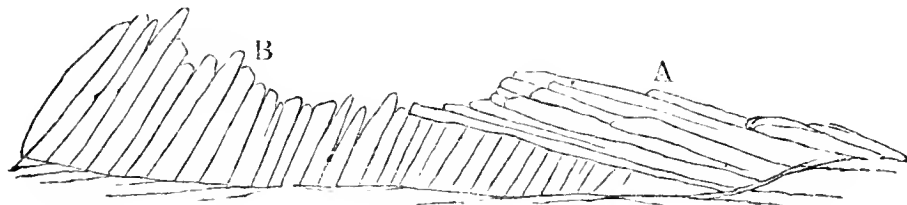
So brilliant was the landward view,  
 The ocean so serene.  
 Each puny wave in diamond rolled  
 O'er the calm deep, where hues of gold  
 With azure strove and green.  
 The hill, the vale, the tree, the tower  
 Glowed with the tints of evening hour,  
 The beech was silver sheen.

. . . . .  
 Such the enchanting scene."

—*Lord of the Isles.*

Lochranza is best seen from Newton Point—the eastern extremity of the loch, and on a fine evening the scene so beautifully described by Scott will be fully realized.

Notice on the beach near Newton Point, where a small stream falls into the sea, an interesting example of a stratum of rock, which has been upturned previous to the deposition of a second. A, represents the Red Sandstone ; B, Chlorite Schist.



*St. Brides.*—There are no remains of the convent where dwelt the lovely Isabel and the hapless Maid of Lorn. But the Castle, though roofless, exists otherwise entire. It is supposed to have been built by one of the Stuart kings as a hunting-seat. Fordun mentions it as a royal castle in 1380.

The passages of the Established Church at Lochranza are only 15 inches in width. In that of Kilmory a principal

passage is at one part only  $10\frac{1}{2}$  inches. Fair dames and corpulent gentlemen reflect before entering! Those who built these churches cannot have foreseen the age of crinoline.

There is now an excellent road from Corrie to Lochranza. Less than 30 years ago there was only the old road, so bad at one place, appropriately called the "The Stairs," that a half laden light cart could only pass it by two men accompanying it—one to hold the horse's head to prevent its falling, and the other to keep the cart from being upset. Old Father Augustine, the messenger of the fair Isabel, may be supposed to have taken this road, when—

"Through birchen copse he wandered slow  
Stunted and sapless, thin and low.  
By many a mountain stream he passed  
From the tall cliffs in tumult cast  
Dashing to foam their waters dun

. . . . .  
O'er chasms he passed, where fractures wide  
Craved wary eye and ample stride."

The walk from Lochranza to Catacol is very delightful.

*Coire-an-Lochan*.—The most picturesque loch in Arran, fills a deep hollow surrounded by steep and lofty mountains. It is 7 miles from Lochranza. Immediately *beyond* the first stream, south of Catacol Free Church, a peat road leads toward it. Drink of St. Columba's well at the house on the ridge in passing. When the road terminates keep the right bank of the stream. It issues from the loch. In the summer of 1870, this Corrie was twice visited by a *blind* gentleman for the sake of its echo.

*Lobelia Dortmanna*.—This interesting plant blooms in

August. One may for years have searched mountain and dale for wild flowers, and never have seen this plant or any one of its species ; and in consequence of having known the tribe only from its garden varieties, which are half hardy in their nature, he may have been led to associate it with what is delicate and exotic in horticulture. With what surprise and delight then does he behold the surface of the shallower waters of the lofty Loch-na-Davie (1182 feet), all dotted over with flowers which, with the exception of being lighter in hue, are in all respects identical with the lovely *Lobelia Speciosa* of our gardens. The plant and all its leaves are several inches beneath the water ; but the pale blue, airy flower, supported by an elastic, leafless stem, rises several inches above the surface of the loch, and encounters uninjured the fiercest blasts ; for when they blow it bends before them, but—conquered yet unconquerable—as soon as they pass again it raises its head, and nods and smiles as sweetly as ever.

*Utricularia vulgaris*, the great Bladderwort, has been gathered in the same loch. This plant, so beautiful in flower and wonderful in structure, grows beneath its waters. To its leaves are attached small sacs or bladders, provided with a little lid, and secured by an elastic valve opening *inward*. The sacs are filled with a gelatinous liquid, till it is necessary that the plant should rise to the surface to expand its blossoms to the sun. At this stage it secretes a gas with which the bladders become filled, and the plant, disengaging its roots from the soil, by the help of the little bladders floats to the surface of the water. But how

are the seeds to be safely deposited at the bottom of the water? The gas in the sacs is absorbed in autumn, and the little inward opening valve, up to this stage so tight, now opens—water takes the place of gas in the bladders, and the plant again sinks.

*Drosera*, the Sun-dew, the most exotic looking of all British wild flowers, is, to the writer, also associated with Loch na Davie; for though not rare it was here his father first met with it, and such enthusiasm did it produce that he welcomed it with a shout of joy. Its flowers are white. But it is not these which made so great an impression on Dr Landsborough, and led Darwin to style it “Queen of the Marsh—Imperial *Drosera*.” It is the contrivance its leaves manifest, and the curious and beautiful character of their adornment. They are of a light green colour, covered with short, and fringed with longish purple hairs, tipped with glands exuding crystalline globules of a sweet viscous liquid, varying with the size of the hairs they terminate. Insects, attracted by the sweetness of the liquid, are detained by the clammy mucus, while the leaf closes upon them—the hair-like fringes overlapping each other, so that by no possibility can the prisoners escape. Such is the contrivance. But to behold the beauty of the plant, see it when shone upon by the rising sun. Then all the little crystalline globules, crowning the purple hairs, sparkle like so many diamonds of purest water, so that no princess, in fairy tale, is so beautifully and profusely bejewelled as this enchanting little daughter of the marsh.

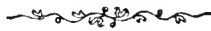
Arran! Farewell for the present. Beautiful and sub-



lime are thy mountains and glens. How exquisite the enjoyment thou art fitted to afford ; but how vastly it is enhanced when He, who is thy Maker, is known as Jesus our Friend, our Saviour, and our God !



## TOURS IN ARRAN.



### ARRAN IN THE OLDEN TIME.

*(This Chapter is extracted from "Excursions in Arran," by the Rev. Dr Landsborough.)*

#### CHAPTER IX.

"Majestic Arran ! much I love thee ; for  
I've oft explored thy glens and tangled brakes,  
Where every bank blooms with the primrose pale  
And drooping hyacinth ; oft I've climbed  
Thy mountains brown, and scaled their towering peaks  
Where high 'midst rocky battlements sublime  
Flora conceals from reach of vulgar gaze  
The loveliest of her fair, but fleeting race :—  
Much I love thee ; because in roaming through  
Thy scenery wild, I've breathed thine air most pure,  
And feasted on thy charms."—*Rev. Dr Landsborough.*

**I**T is now many years since I, for the first time, visited the Island of Arran. It was on a fine Saturday of July that I sailed from Saltcoats harbour in a little half-decked wherry—the only kind of craft as passage-boats at that period on the station ; for steamers were then in their infancy, and thought utterly unfit for navigating so open a sea. I was not altogether an inexperienced landsman, for I had sailed from Leith to Pettycur, in the kingdom of Fife,

no less a distance, I believe, than eight miles, and encountering a storm in returning, and being driven back with torn sails, I had walked to Queensferry, and, notwithstanding the gale, had crossed in an open boat, having, as the only fellow-passenger, a fine old minister, who, I found, was the Rev. Ebenezer Brown, of Inverkeithing, the worthy son of a still worthier and better known father—the Rev. John Brown of Haddington. But this was the greatest sea voyage I had ever set my face to ; it was fully fourteen miles across “*a braid reever*,” as an honest woman who had to cross it, in her fears called it, and it was to an island where the inhabitants spoke in an unknown tongue : it might be the language of Ashdod. Yet I had the boldness to venture, especially as there was scarcely a breath of wind. After rowing out of the harbour of Saltcoats, a slight breeze sprung up, which carried us gently on. It soon lulled, however, and became a perfect calm. I wondered at the patience of the boatmen, though it had for its foundation, I believe, a pretty thick substratum of laziness, which made them very unwilling to ply their oars. At last, however, they had recourse to them, but soon becoming weary of the work, they contented themselves with whistling for the wind ; but the wind lent a deaf ear to their whistle. Imperceptibly, however, we made some progress, so that by sunset we were near the entrance to Brodick Bay. Though it is a deep bay, owing to the calm I could hear the happy carol of the Highland boys while they were driving home their sheep and cows. We might have sung a lullaby in response, for we lay motionless on the face of the deep. Not

anticipating this state of matters, I had laid in no sea-stores, so that I was glad to get a share of the only biscuit that the boat could furnish. Again, however, the boatmen had recourse to their oars, and, by dint of rowing, we reached the shore at midnight, and I was thankful to get lodgings for the night from honest William Hendry, long well known in Brodick.

The only person I knew in the island was an excellent old lady, Mrs Susan Bailie, a parishioner of mine, whom I was going to visit at her summer residence, at Cromla, near Corrie. Next morning I walked up to Cromla, where I was very kindly received. It was a lovely Sabbath, seeming even lovelier than usual in this isle of the sea, where, in my sweet walk along the shore, little was to be seen but the works of God, and little to be heard but the melody of birds, the soft whisperings of the tide as it beat with gentle pulse amongst the pebbles on the strand, or the livelier prattlings of a mountain runlet, as it rushed with merry speed along its rocky channel, or, taking a bold leap from some of the projecting shelves, dashed at once with delight into the cool, shaded pool below. I reached Cromla before breakfast, and was kindly received. As the nearest parish church was at Lamblash, about ten miles distant, at Mrs Bailie's request I preached on the green. This gratified the Lowland household ; but as I had no Gaelic, I fear that Highlanders who were present were very little edified. \* As I remained over Monday, I visited the limestone quarry, and the Blue Rock, where there is a good echo, and looked into Sannox Glen. As phenogamous botany was the only

department of natural history for which I then had any relish, I spent part of the day in botanizing; and I still remember some of the plants which came under my notice, and which I had rarely met with before, such as *Hypericum Androsæmum*; *Anagallis tenella*; *Eupatorium cannabinum*; *Lycopus Europæus*; *Circea Lutetiana*, and *C. alpina*; *Scrophularia aquatica*; *Scutellaria galericulata*, &c. On Tuesday I returned by the swift-sailing wherry, and on this occasion accomplished the passage in about eight hours, and reached in safety the manse of Stevenston, highly gratified with my Highland trip; for a visit to Arran in those days was what not every one could boast of.

TOUR II.—Years passed on, and steamers becoming ventures, sailed from Ardrossan to Arran twice a-week. On a balmy afternoon about the end of June I embarked for Arran, and after a pleasant sail arrived at Lamlash about sunset. As I had only one full day to spare, I wished to make the most of it by ranging over a considerable portion of the island. As I had never seen the King's Cove, I meant to steer my course in the first place in that direction. I was glad, therefore, though it was after sunset when we landed, to accompany a young man, a native of the island, who meant to go by a footpath over the hills to Shiskin, which is in the neighbourhood of King's Cove. So long as our path was tolerably level, I was a match in walking for my companion; but when we began to ascend the steep mountain-side, I found that the young *montagnard* had fairly the advantage of me, so that it was with the utmost

difficulty I could keep pace with him. I did my best, however; for, though almost breathless at times, as I considered myself rather a good pedestrian, I felt reluctance to cry, halt. I once or twice succeeded in bringing him to a parley respecting his knowledge of the road; for I found there was so little of a path that he had to be guided by certain little *cairns* placed for that purpose at intervals; and as it was now night—a fine midsummer night—my guide had to stoop down from time to time to catch a view of the guiding cairns betwixt him and the sky. We reached Shiskin about midnight, and with his aid having aroused the landlady of the little inn, and having got what refreshment, in the circumstances, could be most speedily furnished, I went to bed, giving myself unreluctantly up to “Nature’s sweet restorer, balmy sleep.” Next morning I was astir betimes, and after an early breakfast set out for the King’s Cove. I was not alone. I had a frolicsome companion, a fine, faithful, kind-hearted fellow, who would have gone through fire and water for my sake, without taking the slightest credit to himself for doing so. He enjoyed the excursion in his own way as much as I did. He had no turn for botany, but he was a zoologist, and quite in his element when engaged in ornithological pursuits. My companion was—a fine sagacious shepherd dog! I had a great regard for him, both for his own good qualities, and because I had got him from one dear to my heart. Could I have traced his pedigree, I doubt not that he would have been found to be of high descent—from some sage canine family on the mountains of Galloway; but before he was fairly out of his pup-

hood, stolen or strayed, he had come down to the valleys, and after he had been seen wandering about for days, starved, unowned, forlorn, and almost pelted to death by some cruel boys, more savage than the dogs that they egged on to worry him, he was in pity taken into my father's house by a kind-hearted servant girl. Under good treatment he soon became very handsome, and a great favourite with all. The kindness of the servant-girl to him in the time of adversity was never forgotten ; and when at one time she lay ill of fever, he continued to lie affectionately at her bedside, seemingly laden with grief, and returning groan for groan. He was now full-grown, finely marked with a glossy swirl on his shaggy coat—an honest gaucy-looking dog, with a mild, intelligent, sport-loving eye. It would have done your heart good to hear his joyous bark, or to see his bound of merry glee as we set out through the heather. Everything was game that came in his way, whether hare or rabbit, or grouse or crow. He would even leap after the lark as she sprung up towards the sky. The stonechats were keenly pursued as they flitted from cairn to cairn ; but even with them he was unsuccessful. Want of success, however, did not lessen his ardour, and there was no lack of objects of pursuit.

The King's Cove was the refuge and residence of King Robert Bruce, when a price was set on his head by the ambitious King of England. Everything is interesting in the history of a patriot king, whether in prosperity or in adversity ; and it was not without some emotion that I entered the cave that had often been trodden by Robert

the Bruce. His faithful friend, Sir James Douglas, had arrived in the island before him, and not knowing that the king had come to it, it would afford him no small joy when he was made acquainted with this in the manner so well described by the good old historical poet Barbour :—

“ The king then blew his horn in by,  
And gart his men that were him by  
Hold them still in privitie ;  
And syn again his horn blew he.  
James of Douglas heard him blow,  
And well the blast soon can he know ;  
And said, Surlie yon is the king,  
I ken him well by his blowing.  
The third time therewith also he blew,  
And then Sir Robert Boyde him knew,  
And said, yon is the king, but dreed,  
Go we will forth to him, good speed.”

On the cliffs of the cave may be found, as a very appropriate adornment of a royal residence, *Osmunda regalis*, the royal fern ; and in some places in Arran it may well be called a royal plant, for it has been found by Mr Stewart Murray eleven and a half feet in height.

Leaving the cave I proceeded along the shore to Machrie. After having walked a mile or two, I struck up from the coast, and came ere long to what I learned was dignified with the name of Loch Iorsa, though, from its scanty breadth I never would have supposed that it was the loch from which abundance of trout, and still greater abundance of salmon, are often caught by the cunning angler's deceptive fly, or more ingloriously by the sweeping net. On I wandered, cheered by falling in with several interesting phe-



nogamous plants, which I had not often seen in Ayrshire, such as *Gymadenia conopsea*, with its fine rose-purple spike, filling the air around with the fragrance of its sweet perfume ; *Habenaria albida*, and I think *H. viridis* ; *Drosera Anglica*, and the more common *Drosera rotundifolia*. I came at last to a mountain lake, more than a mile in length, and a quarter of a mile in breadth. As I had no map of the island, I knew not what it was, but I was much struck with the utter loneliness and sterility of everything around. The plain in which it is situated is nearly covered with blocks of granite, and the soil, which consists chiefly of decomposed granite, can nourish only some patches of dwarfish heather. I found afterwards that this was Loch Tanna ; that though nature seemed so dead and sterile around, its waters swarm with life, being a fine trouting loch ; and that a little stream, that flows from it into the Iorsa (pronounced Erza), is called the Shirrel Burn.

Here stood I, in this barren waste which encompasses Loch Tanna. I was bound for Lochranza, but as I was in search of Alpine plants, I resolved to make my way over the highest mountain in view, which, though then unknown to me by name, I afterwards learned was Beinn Bharrain (pronounced Ben Varen), almost as high as Goatfell. Half-way up its steep side I was glad to recline by a little limpid fountain, and to share a sandwich with my quadrupedal companion. It was a charming day, though rather too hot for so steep a path ; but the geologist will not grudge the labour when he has gained the summit. He will find on the top two ranges of huge granite blocks,

like two regular walls meeting at right angles. On the east and west sides the mountain is like a long barn with a rounded roof; but on the north side the space between the rectangular wall is scooped out, leaving tremendous precipices overhanging the corrie, or hollow, in the bosom of the mountain. In the clefts of the granitic walls I found one plant that was new to me, *Salix herbacea*, the least of our British willows. I got also, in the clefts of the rocks, *Vaccinium vitis idæa*, *Alchemilla alpina*, *Saxifraga stellaris*, and a few more plants, rather of an Alpine character.

As the burning sun, though he had still a good way to run, seemed hastening on to plunge himself into that tempting sea which was now shining under his beams, and in which several islands which I saw from my elevated position, were swimming with much apparent delight, I thought it was time I should descend also. I had never been at Lochranza, but as I knew that it was at the north end of the island, I resolved to bend my course to the most northerly house I saw on the shore. The descent was accomplished in the fifth part of the time I had taken to ascend; for, in early life, when the body is light, and the limbs elastic and strong, descending a mountain is but an easy race. I was at one time brought to a halt by seeing some beautiful moss around a mountain spring, but having gathered some fine specimens of *Bartramia fontana*, I halted not again till I reached the houses I had seen from the mountain-top; but, alas, alas! it was not Lochranza but Thundergay, so that six good miles lay before me ere my journey would be accomplished. The walk was a pleasant

one, however. The evening was perfect loveliness. After passing Catacol, the cliffs were richly adorned with natural copsewood, in which the mavis and merle, and many other birds, were raising in happy chorus their evening song of joy. My faithful four-footed companion showed that he had just enough of it for a time. All his gambols were over. He had worn himself out in his zoological and ornithological pursuits; and with drooping ears and tail, he was walking soberly at my heels. Soon after sunset Lochranza was reached; where I spent the night comfortably in the inn. Next morning I had a walk of twelve miles to Brodick, but I accomplished it in time to get aboard the steamer for Ardrossan, and I reached home in safety, well pleased with my Highland ramble.

TOUR III.—As in the account of my previous Tour I passed rapidly from Lochranza to Brodick, I shall now give a brief reminiscence of a trip to Lochranza in a subsequent year. I set out for Corrie to accompany a lady, Miss M——h, who had never been at Lochranza. She was mounted on a Highland pony; but I knew the ground, and preferred going a humble pedestrian. I had no cause to regret this. Our path, for a time, was good and pleasant.

After passing South Sannox, and also North Sannox, where there were at that time some of the poorest cottages I had ever seen inhabited by human beings, the roofs of which, nevertheless, were adorned with abundance of *Corydalis claviculata*, we passed for miles along a rugged path through a bleak, uninteresting tract of country, till

the road, at a place known by the name of "The Stairs," became the very perfection of ruggedness. At considerable peril, however, I succeeded in leading the trembling pony up and down these steep and rugged "stairs," though I feared at every step that horse and rider would be precipitated on the guide. At last, however, we came in sight of Lochranza. In approaching Lochranza from the south, the only interesting feature in the landscape is the old castle.

After passing a couple of hours at Lochranza Inn, we thought of returning, but how were we to do so? Must the same rugged road again be tried, risking anew horse, and rider, and guide? Was there no other way? was our earnest inquiry. Happy were we to learn that there was another way, and without hesitation we took it, though we were told that it was about two miles longer. How great was the contrast! The former way was all ruggedness beneath, and all sterility around; here, on the contrary, after reaching Lagan farm by a tolerable bridle road, we had a charming view of Ayrshire, Bute, and the Cumbraes, while the placid intervening sea, studded with vessels of various shapes and sizes, gave life and cheerfulness to the scene. When we reached the shore, though the landward view was limited by the nature of the rising ground, it was very delightful. It was Nature in her native charms, and in her own dress, exhibiting at times much fantastic loveliness. Though from Lagan our road at best was only a footpath, and in many places only the green untrodden turf, it was quite rideable except at one place, and that place, notwithstanding its for-

midable aspect, was nothing to the ragged *stairs* by which we approached Lochranza in the afternoon. The place of which I speak is the well-known *Fallen Rocks*, where the mountain side has given way, and coming down as an avalanche, has left the declivity from the very top to the sea-side, like a troubled stream of gigantic boulders.

Having passed the *Fallen Rocks* and the *Blue Rock*, where there was much that was sufficiently interesting to detain us had we not often been there before, we soon reached Corrie, much pleased with our little expedition, and not unwilling to be refreshed with that favourite beverage which “cheers but not inebriates.”

TOUR IV.—The next Tour of which I give an account was through the mountains of Arran. On a fine though rather gloomy morning, Major Martin, Dr Curdie, and I, left the Inn at Lochranza, to ramble as botanists among the hills and glens, hoping to reach Brodick in the evening as our resting-place for the night. We spent some time at the little fresh-water loch, which is about a quarter of a mile from the inn, where we found abundance of a pretty blue water-beauty, *Lobelia Dortmanna*. Near the loch we found *Hypericum elodes*, rather a rare plant. After entering the wild moor, by Glen Easan Biorach, we found abundance of a plant of greater rarity than beauty—*Ulva montana*. Sir William Hooker mentions it as lying on the ground, but not attached to it, in stony, moist places, on Goatfell, Arran. According to Lightfoot, this is the “mountain dulse” of the Scots; and the Highlanders wash it and rub it between their

hands in water, so as to make a paste which they use as a medicine for their calves. We had not proceeded far till it began to drizzle ; and as we mounted the heights, not only did the rain descend, but the wind blew. In process of time we reached Loch na Davie. Does the reader think this is a fine sheet of water, several miles in circumference? I have seen many a quarry-hole more magnificent. Nevertheless, this *loch* sends its waters to the north and to the south. It is at the very summit-level, and from one end a stream flows toward Lochranza ; and from the other end a stream flows down Glen Iorsa. It reminded me of seeing, in my younger days, the Tweed and the Clyde starting as little rills within a short distance of each other. There was to me something very interesting in seeing these magnificent rivers in their infant state. It was like looking at interesting little children, with the reflection, that artless, and un-aspiring, and feeble though they be at present, they may ere long be the great ones of the earth, the benefactors of their race through time, and may shine as the stars of the firmament for ever hereafter. Though the day was unfavourable for botanizing, we gathered some good mosses ; and in Loch na Davie we got a phenogamous plant, which, though not very rare, was at that time new to all of us—*Utricularia vulgaris*, the greater bladder-wort.

We were now descending into Glen Iorsa, when, lo ! on the acclivity on the left we beheld an animal which was interesting to all of us, but especially the Major, a keen sportsman, who, though he had often seen herds of wild elephants in Ceylon, had never before seen in its wild state

*Cervus elaphus*, the stag or red deer. It stood a little to gaze at us, and then, trotting lightly away, disappeared in the mist. It was a noble animal, with its branching antlers. The usual height is about three and a-half feet, and they have been shot in Arran weighing twenty-two imperial stones. These stately creatures are now rare in the island; but Martin, who wrote a description of Arran about the year 1700, says—"The highest hills of this island serve instead of a forest to maintain the deer, which are about four hundred in number, and they are carefully kept by a forester, to give sport to the Duke of Hamilton, or any of his family that go a-hunting there. For if any of the natives happen to kill a deer without license, which is not often granted, he is liable to a fine of twenty pounds Scots for each deer." (The red deer are again numerous in Arran. There are also some Virginian deer. They are smaller than the red deer, of a light brown colour, and their horns bend greatly forwards.)

By this time the rain was incessant, and descending in torrents. A dense fog also had settled on the hills, so that we could see nothing but the base of Beinn Bharrain on our right. By following the little stream we came to Loch Iorsa, which, owing to the heavy rain, was in fine state for the angler. We resolved to make the best of our way with all convenient speed to Brodick, and accordingly we began to ascend the hills in that direction; but owing to the dense mist, we soon lost our reckoning, and even Dr Curdie, a native of the island, who had often traversed the whole of it, could not tell where we were. Onward, however, we went, without dread or fear. We were stout

and healthy, and in good walking trim, and we knew if the worst came to the worst, a few hours' light walking would bring us to the sea at the west side of the island. The elements had done their utmost, at least the clouds had been so liberal of their watery treasures that we could not be wetter. The little mountain streams we had to cross had become torrents, and we splashed through them with as much pleasure as if we had been ducks. At last we came to a mountain tarn. None of us knew it, but we conjectured, and I believe aright, that it was Loch Nuis. Soon after this, however, the mist cleared off, so that we knew where we were. We could see a road crossing the island which we knew would lead us to Brodick; and Dr Curdie, pointing from the height towards his father's farm at Sliddery, told us with glee how, when a boy, he and his brother caught abundance of blackcocks. These stately birds are very fond of corn, and they failed not to pay their respects to the *stooks* on this Highland farm when harvest came. The boys, who were placed as guardians of the stuff, might have driven them away; but that was not their game. They crept into the heart of the *stooks*, and when the blackcocks alighted, and were busily devouring the oats, the boys cautiously slipped up their hands through the sheaves, and catching them by the feet, made the poor blackcocks an easy prey. From the heights we bent our course to the road which we had seen, called "The String," and as the rain had continued so heavily to descend that botanizing had long been out of the question, we made straight for Brodick, where, amidst the comfort of dry clothes, an excellent dinner, and cheer-



ful converse, we could laugh at our plight as we descended the hill, when the rain that had been caught in our coat pockets flowed from our skirts in continued streams.



## A VISIT TO LOCHRANZA IN THE OLDEN TIME.

### CHAPTER X.

“Time, as he passes us, has a dove’s wing,  
Unsoil’d and swift, and of a silken sound.”

BY the “olden time” is not meant the *fast times* in Arran, extending to the beginning of this century, when that which in the forenoon had flourished on a tree as a living branch might as a plough be doing work in the field in the afternoon ; and that which had waved as yellow corn at dawn might appear in the shape of bannocks on the breakfast table. The period meant is that preceding the introduction of railways in Scotland, when steamboats to Arran had only begun to ply, and had as yet rather revealed than altered the previous state of things. Then Arran was yet in its simplicity, and its beautiful and romantic scenery, now so much frequented, so little visited that even the road between Brodick and Sannox was crossed at five different places by gates, all of which had to be opened and shut by

every traveller. The original village of Brodick, which nestled under the Castle, on the ground betwixt the Old Inn and the Quay, had been swept away, and New Brodick had taken its place ; but *The Street* (now also gone), as New Brodick was named, had not yet been carried back in those curious and intricate alleys, full of apartments as a honey-comb, into which the numerous arrivals on a Saturday evening in summer were packed, and from which in the morning they issued in such numbers as amazed themselves, and much more those who had not penetrated these secret depths, and who judged of the accommodation of the houses by the appearance they presented in front. Then Brodick Fair was in its glory ; and at Saltcoats Fair, on the neighbouring mainland, the arrival of “The Arran Boats,” bringing the high-mettled Arran dames, with their ducks, hens, eggs, butter, and various commodities, themselves conspicuous by their snow-white *sow-backed mutches*, it may be three or four of these, one on the top of the other, was a scene of confusion and turmoil—of strife of known and unknown tongues, such as the writer has only seen equalled at a fair held on the open plains of Africa.

It was towards the close of this period that Dr Landsborough and his family went to Arran for a few weeks, and of this visit it is proposed to give a short account, the writer availing himself of Dr Landsborough’s “Excursions to Arran.”

“In 1841,” the Doctor writes, “I had made arrangements to spend a short time with my family at Lochranza. I had given orders that some wheeled carriage should be in readiness for us when we landed from the steamer at Bro-

dick, to convey us to Lochranza, as I understood that the new road was completed. When we reached Brodick I was informed that the new road had not been completed, and that to take a wheeled carriage to Lochranza was impossible. What was then to be done? There were no balloons; but it was suggested that we might drive to Corrie, and there hire a boat to convey us. This seemed very practicable, and acting upon it, we sent the feeblest portion of the party on before us, and two stout boys and I followed on foot. On reaching Corrie we hired a boat, which soon set sail, leaving the boys and myself to walk along the delightful shore, which we greatly preferred. By the time we reached the Blue Rock, a very unfavourable change of weather had taken place. A stiff breeze had sprung up from the north, and the day had become wet and misty. After we had passed the Blue Rock, to our surprise we came up to the boat, and found that the boatmen had landed their passengers. On inquiry we learned that the wind was quite a-head, and that neither by sailing nor by rowing could they make way against it. Being thus brought to a stand, a council of war was held. 'Shall we return to Corrie, or shall we proceed on foot?' All were for proceeding. 'But are you able for the rough walk?' said I to the females and to the young travellers. 'We are willing, and we think we are able,' was the reply. I was for going along the shore by the Fallen Rocks and Laggan, but the boatmen, who were to follow next day, if more favourable, with the luggage, said that the shore road was some miles longer, and that we had much better take the inland one. 'Setting a stout heart to

a stay brae,' we struck upwards in the direction of the inland road, and coming to a house which we knew was the last we would see till we reached Lochranza, we applied to the inmates for instructions. They pointed out to us the road, or rather the direction, in which we were to proceed, for the fog had now become so thick that we could not see many yards before us. We had not advanced far till the faintly-marked footpath seemed to become two—one diverging to the right and another to the left. We turned to the left. Alas! alas! we should have turned to the right. On we went, however, and ere long the track disappeared, and we were evidently in the pathless wild, and all began to see the precariousness of their position, and to ask with great earnestness whether I knew where we were. I felt myself in a most unpleasant predicament, as a blind leader of the blind. After walking for two hours, we were still out at sea without rudder and without chart. Though it blew a gale, mingled with heavy rain, the fog was so thick that we were often deceived. We often thought we saw a house, when it was but a great rock surmounted by heather; and what we had hoped were human beings meeting us, proved only to be some of the black cattle of the wild moor. We had already been three hours on the march, and had made little progress; for wind and rain were full in our face, and we occasionally stumbled into deep water holes concealed by the long heather. For another hour we struggled forward, and evening was drawing on apace. There were seven of us in all. The maid-servant, who had never been across seas amidst Highland hills before, was

the first to despond, thinking, I suppose, that all was over with us, and that she would never see Stevenston Manse again. Little Janet also, not six years of age, began almost tearfully to ask me whether I thought we would get to Lochranza that night. That was a question more easily asked than answered, for if, in the fog, we had taken a southerly instead of a northerly direction, we had yet a dozen good miles of moss and moor, hill and glen, before we could reach a human habitation. I was afraid that the strength of my daughters would fail. It was well that the two boys were strong, especially William, the elder of the two, who has since had more dangerous wanderings in the wilds of Australia. He, aided by David, carried their little sister."

My father, at this time sixty-two years of age, and somewhat stout, had enough to do in cheering and helping on the ladies. The task which fell to my brother and myself was no light one,—that of carrying a sobbing child of about six years over bogs and peat-holes, and, above all, when climbing the heights (nearly 2000 feet) of North Sannox Glen; but my brother, with the generosity which often belongs to the strong, of his own accord carried her the greater part of the way. Precious is a strong, loving, and gentle elder brother to a little one, especially on a rough road on a dark day! How precious our heavenly Elder Brother, who is ever ready to lead us, and give us his hand, and carry us when needful; comforting us also, and wiping away our tears!

My father, when he lost the road, had followed the

stream. When this would have led to the Caisteal Abhail heights, he ascended the ridge on the right, and knowing how dangerous it would be to venture upon the level moor during thick mist without means of direction, kept along the northern slope of this range, and at the end of four hours brought us to the deep rocky channel of the Eis-an-Biorach stream, near where it issues from Loch-na-Davie. At this point the rain ceased and the fog cleared away, and, beholding in the distance the rugged precipice of Tornidneon, he shouted with delight, "I now know where I am." " 'Where?' was simultaneously exclaimed. 'In Glen Eis-an-Biorach,' was the ready response; 'and *that* (pointing to the conical hill in the distance) is my old friend Tornidneon, which is not a mile from Lochranza.' Every countenance beamed with joy. There was no longer any weariness; the youngest became merry as a lark, and frisked about like a mountain kid. The two boys skipped down the glen at full speed, to have all in readiness for us on our arrival. Our lodging was to be in the Inn, and our hostess, Mrs Mac-larty, notwithstanding the inauspicious name, was kind, and cleanly, and did everything in her power to render us comfortable. We had, of course, a banquet of tea, and in the reclining style of the ancients (though they knew not the luxury of tea), for as we were all completely drenched, and our whole change of raiment in the boatman's house at Corrie, we had to go to bed till our clothes were dried. We slept soundly through the night, and were refreshed, and had reason to bless God, that none of us had in the least suffered from the pilgrimage of the preceding day; and we contin-

ued greatly to enjoy our temporary sojourn at Lochranza."

Lochranza was truly a secluded spot in these days. There could be no better evidence of this than the fact that, with the exception of one room, the whole of the only Inn in the place was, during the busiest season of the year, let to us for several weeks, without apparently any inconvenience to the landlord or the public.

I may mention a little incident in further illustration of this. I was one day, shortly after we arrived, standing at the door of the Inn, eating a piece of loaf bread. A little fellow passing stopped, and after, with a wistful look, eying the bread for a little, came up to me and said, "Will you give me a piece of *that*?"—the expression, and also his look and manner, conveying the idea that he had never seen loaf bread before; or, if he had, it had been brought from a distance by a boat, and was regarded as one of those special luxuries of which children ought not to expect to partake.

"To behold Lochranza to advantage, it must be seen from the sea, or from the eastern entrance to the loch. Then the picture is a noble one. In the foreground you have the old castle, where of old kings and nobles were wont to feast, and from whose walls issued gay arrays of Scottish nobles, with hound and horn to awake the echoes of many a glen, while they hunted the red deer. Beyond the bay arise the heights of Tornidneon; and over them, at a greater distance, you behold, in savage grandeur, that serrated range of mountain cliffs and pinnacles which lie on the north side of wild Glen Sannox."

"Lochranza is a place of rendezvous for Highland boats



during the fishing season. This year it was particularly crowded, the fish being abundant ; and it was a lovely spectacle on a summer evening, while the gulls and gannets, attracted by the spoil, soared in abundance over the waters, to see the boats, almost in countless numbers, covering the Sound of Kilbrannan, and many of them bearing away towards Lochfyne, at no great distance. In the morning, when the boats returned laden with the silvery treasure, all was bustle and activity, part being spread on the shore to be immediately cured, and part being sent in quick-sailing boats, to furnish a morning feast to the poor as well as the rich, through a wide extent of country. Around the castle, the green was strewn with fish and nets, and casks and carts ; mingled with curers and coopers on the one hand, busy storing up in barrels the new-caught fish ; while, on the other, women and children, around smoking fires over which simmered suspended pots, were not less diligent in extracting oil from the boiling refuse."

Arran is celebrated by Buchanan, the historian, for its white fish. Lochranza bay, at the time of our visit, abounded in them. On one occasion our *take* was wonderful. My brother and I had gone out alone. What great meeting of the fish of Arran had taken place that day at Lochranza bay, I cannot tell. No doubt an account of it would be very interesting. Our boat arrived when the meeting was over, and the inhabitants of the depths, with keen appetites, were separating. No sooner did our baits reach the bottom than they were eagerly attacked. As for taking up a single fish, at a time, we never thought of it.

Both of us had three hooks on our line, and not unfrequently each of them bore a fish, and that not a pigmy, but a good-sized haddock. So lively was the competition for the bait, that, when a little fellow managed to seize it before his larger neighbour, he not unfrequently had condign punishment inflicted upon him by being partly devoured himself. Had this been allowed to go on for a day, we might have filled the boat ; but, most unfortunately, ere we had been two hours out, a signal was hoisted on shore for our return. Most reluctant were we to obey, but obedience was necessary ; so, taking with all possible care the bearings of this *true haddock bank* which we had at last discovered, we rowed ashore. Here we strung the fish ; and so great was their weight that my brother, a very strong lad of sixteen, found that, when standing on the seat of the boat, the length of the string of fish rendering this necessary, he could not lift them. How were we to get them home ? We took an oar, and resting the one end on his shoulder and the other on mine, we fastened the cord to the middle of the oar and thus bore our spoil to the house in triumph. On an early day we returned expecting the same sport, but alas ! notwithstanding all our efforts, we never found the bank again !

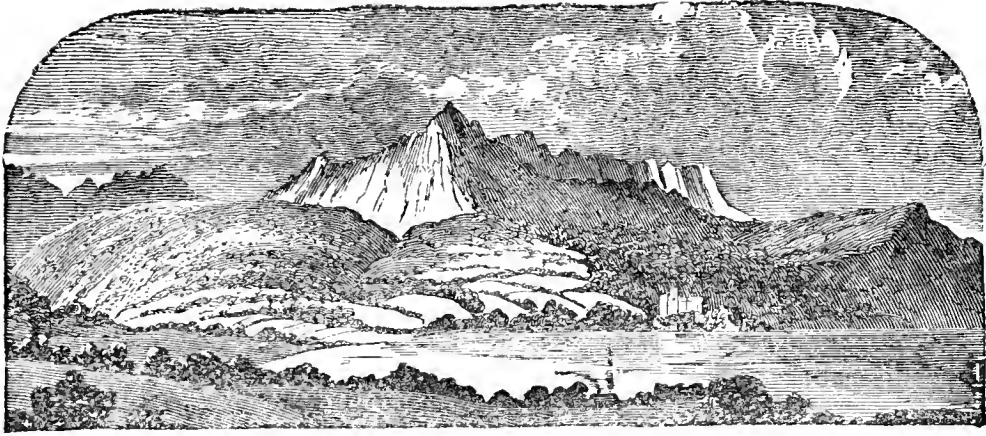
The Rev. C. Stewart, at that time minister of Lochranza, now of Kilmory, gave us the enjoyment of an evening's fishing of another kind—that with the *splash-net*. On a fine evening, he, the schoolmaster, and we two boys, launched our boat about eight o'clock. As quietly as possible we rowed to a part of the bay where salmon or sea-trout were

likely to be had. Approaching the beach we let out the end of the net, which is kept perpendicular in the water by means of weights attached to the lower side, and then encircled a portion of the bay, letting out the net as we did so. When the beach was reached one of the party went ashore and drew the net toward land, while those in the boat, keeping outside the net, threw large stones into the sea (hence the name *splash-net*), driving the fish toward the shore, till at length the water became so shallow that the lower part of the net reached the bottom, when escape for the poor fish became impossible. The net was then brought to land, and the fish taken out, the good kept and the bad cast away.

We were not very fortunate this evening ; yet got salmon-trout abundantly sufficient to breakfast all of us next morning. I was much pleased with the novelty of the amusement. The water was beautifully phosphorescent, which much enhanced the interest of the fishing. Our occupation that night in Lochranza's romantic bay reminded me of the scenes depicted in the Scriptures when our Lord and his disciples trod the strand, and sailed upon the bosom of the sweet lake of Galilee ; and where, in the " Parable of the Net," the principal features of our night's fishing are most clearly set forth. We returned about midnight.

A century ago there was more animated fishing at Arran than any I have mentioned—that of the basking shark, or sun fish, so named from its habit of floating on the surface of the water ; also called the sail-fish, from the large fin on its back. This sea monster, though a shark (*Selache*

*maxima*) is quite harmless. It is the largest of true fishes, and approaches the size of the whale, having been found thirty-six feet in length. It was then a frequent visitor of the frith of Clyde, and was taken at Ballantrae, in Ayrshire, as well as in Arran. It made its appearance in the first or second week in June, and generally remained only for three or four weeks, though occasionally seen considerably later. The liver of a good-sized fish yielded about eight barrels of oil, for the sake of which it was keenly pursued. All the fishermen in Arran were provided with harpoons and tackle for its capture; nor during the season of its visit did the Arran and Saltcoats Packet ever cross without them. A sharp look-out was kept, and no sooner was its well-known sail (two or three feet high) discerned than all was bustle and activity, and soon a boat was speeding toward it over the water. Four men manned a boat—two rowed, one managed the rope, and one handled the harpoon. Taking it was attended with some danger, for it is very powerful; and, like the whale, on being struck it plunges to the bottom. On one occasion the rapidly uncoiling rope caught the foot of the man who had charge of it, and in a moment he was overboard, and down into the depths. “Cut the rope,” shouted the oarsmen to John M'Donald, the master. “No,” he replied; “the man is dead already, and the fish will do good to his widow.” My informant, Mr M'Kelvie, the intelligent septuagenarian teacher at Little Mill, had the anecdote from the lips of John M'Donald. The sail-fish, when basking, allows the approach of a boat. This fearlessness was its ruin, and now it is seldom seen.



## CHAPTER XI.

### A DAY AT BRODICK.

“Lift up your heads, ye hills,  
And nod God’s praise, ye sharp, far-stretching lines  
Of crags storm-shattered, and ye jagged peaks  
Sky-cleaving.”

IN the beginning of July, 1872, by the kind invitation of Mrs Parlane, Manchester, I joined her party at the Douglas Hotel, Brodick. The site of this building is admirable; there is connected with it a pleasant walk in a wood by the side of a little stream; the lawn is well kept; the house excellent, and very convenient to the pier. Its grand attraction, however, consists in the view which it commands of Brodick Bay, the Castle, and of Goatfell—seen in all its goodly proportions rising from and partly encompassed by the waters of the bay. What rich, varied, and continuous enjoyment does this grand sight provide for the inmates of the hotel! Seated at its windows or on

benches in front, they gaze upon Goatfell "in early day, when the morning's white mists, drawn up from the glens," envelope with a transparent veil its giant peaks, or gathered into patches, rest upon its sides and clothe them with a drapery like to that of snow. Has the storm been let loose? With silent admiration they view the thick clouds, "urged onward by the blast, flitting swiftly across the mountain, while ever and anon its gloomy shoulders loom largely through the rolling masses, seeming in doing so to double their gigantic proportions." Most delightful of all is the commingling of loveliness and grandeur, when, "in the mellow light of a summer sunset, the shadows of the summit are seen falling far athwart the lower part of the mountain, while the waters of the bay gleam brightly in the rays of the sun," and the whole landscape is a-glow with the reflection of its glory.

Dinner was over by six, and having for my companion the Rev. J. S. Gardiner, of Grosvenor Square, Manchester, and A. H. Barbour, Esq., of Bonskeid, a medalist of Edinburgh University, we procured a boat and betook ourselves to the fishing-ground to which the whiting has, after an absence of ten years, returned. This evening our *take* was indifferent, for after fishing an hour and a-half we could only number seven whittings. Resolved to make a change, we boarded an open sailing boat belonging to my brother-in-law, and having shipped Hans M'Donald as crew, and installed, as being the descendant of sea captains, the minister of Grosvenor Square, Manchester, as commodore, we hoisted sail and made off for a cruise. Instead, however, of

steering for mid-channel, the captain, doubtless out of regard to those of us who had no sea-blood in our veins, confined himself to the bay.

Dr Chalmers, on one occasion, after observing for some time a number of sea-birds, said to his companion: "Did you ever wish you were a gull?" He was doubtless prompted to put the question by observing the easy flight of this bird, and by a desire to partake of its delightful motion. The nearest approach he could have made to the realisation of his wish would have been by getting, on a favourable evening, into a little sailing boat. Indeed, even in appearance, the little barque, with its two white sails fully distended by the wind, bears a striking resemblance to a gull upon the wing. But in ease and grace of motion the resemblance is far greater. Next to the pleasure of being a gull! is that of occupying a little boat while it skims over the wave, the cleft waters parting in foam at its prow, and lipping as they pass its leeward side. How smooth and delightful the motion! more so than any other with which we are acquainted—that of a steamship is not to be compared to it. Perhaps there is also zest given to the sensation of enjoyment by the smallness and frailty of the skiff, and by the knowledge that a spice of danger is associated with our pleasure—for these mountains above and around have an evil repute for discharging sudden gusts from their high shoulders,

" Whence issues forth the storm with sudden burst,  
And hurls the whole precipitated air  
Down in a torrent."

The sail was rendered almost perfect this evening by the

soft and balmy character of the atmosphere, and the magnificent views presented by the scenery around ; for “in few places on this fair earth is there beheld so delightful a mingling of beauty and grandeur as in the near view of Brodick. Grandeur you certainly expect ; for these stupendous mountains are seen from afar, and form the greatest ornament of our western coast. But one is not prepared for the remarkable beauty, and sweetness, and softness given by the rich clothing of wood on the mountain skirts, down to water’s edge ; for the fine effect produced by Brodick Castle, rising in ducal grandeur amidst the embowering foliage of many venerable trees ; nor for the solemnizing view of the deep-retiring glen, winding along the Rosie, till it seems lost in the embrace of the approximating mountains.”

Next day I awoke from sound and most refreshing sleep. Getting up I saw that the morning was clear and beautiful. Let me, I said, enjoy it ! Soon I was wending my way toward Glen Rosie. How quiet the whole scene as I moved along ! Brodick was again what it was wont to be before the steamer had brought to it such an influx of visitors. Passing the front of Brodick Established Church, a few steps conducted me to Glen Shurig stream. How picturesque the vista from the wooden bridge through the overhanging and interlacing branches of the ash and birch ! while the steep bank on the left is rendered attractive by the wild rose, the broom, the whin, the foxglove, the deep green moss, and the feathery fern.

There are four special view-points as one ascends Glen Rosie. The first immediately after crossing the bridge.



Here you have the cottages and cultivated fields immediately in front; beyond is a semicircle of pine wood, commencing up Glen Shurig, and extending to the coast at Brodick quay, and adorned in this direction by the Castle. Above the wood is a stretch of brown heather, from which Goatfell rises abrupt in massive grandeur. Seen in the light of morning, the dark pine-wood appears richer, fresher, and brighter than at other times, and contrasts most strikingly with the gray and barren rocks of which the upper part of Goatfell is composed.

The second view-point is at Glen Rosie farm, where, with noble Scotch firs on one side, and an ash and other trees on the other, and over the roof of a small thatched cottage, a vista is presented through which the wood on the further side of the glen is beautifully seen. This view is a favourite with photographers, and they have succeeded in obtaining a very pleasing photograph, which they designate "The Entrance to Glen Rosie."

The third view is a very little beyond this. On turning the corner, you suddenly behold the whole of the lower part of the glen stretched out before you,—on the one side is the great tower-like summit of Goatfell, and on the other the peak and precipice of Beinn Nuis; while in front are the ranges of Beinn a' Chliabhain and "The Comb." The view is perhaps most striking at the spot where Goatfell's highest peak, remaining in sight, the grand precipice and range of Beinn Nuis are full in front. Passing this point, before reaching the fourth, you descend into a lower level, where the heather gives place to the sweetgale, which emits a delicious

perfume, especially at this early hour, when the dew is still resting upon it. You now approach some remarkable mounds, regarding the origin of which geologists are not agreed.

At the Garbh Allt stream the fourth and most perfect of all the views in Glen Rosie suddenly bursts upon you ; for at this spot the glen turns sharply to the right, and full in front, occupying the glen's head, towers the majestic cone-peaked Cir Mhor. The Ceims are on its left, and the Castles and Ceum na Cailliach on its right ; while the glen is bounded on one side by Beinn a' Chliabhain, and on the other by the slopes of north and south Goatfell, visible to their summit, almost half a mile above the position we occupy. The prominent feature of this view is Cir Mhor and the Ceims, whose shaggy sides the rays of the morning sun reveal all riven and ragged with innumerable scars, as if ten thousand thunder storms had hurled their lightning bolts upon them.

“ Those battlements gray the glen's north guard  
Which with a million storms have warred,  
Whose shattered peaks and front are scarred  
With desolation.”

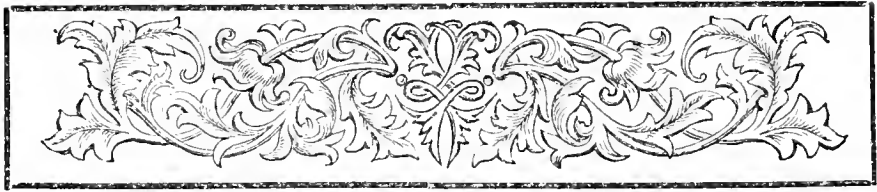
Encompassed by this wild and grand magnificence, I took out the piece of bread with which I had provided myself, and with more than usual awe and reverence rendered my expression of thanksgiving to that Great Being who is the Creator of all, and also the Giver of all good. The scanty repast over, I visited the well-known junction of the granite and slate in the bed of the Rosie stream, a little below where it is joined by the waters of Garbh Allt ; and then began to ascend toward the waterfall, or rather series of

then, in this little headlong and tumultuous mountain torrent.

“ Here, leaps wild  
From rock to rock the mountain-child  
With boisterous brawling.”

The falls are not very high, but the sight and sound of of water are always agreeable. The steep banks are also adorned and rendered fragrant by the birch, the mountain-ash, the honey-suckle, the orchis, the heath, and the gale. These render the place pleasant ; also the presence of the butterfly, which, loving the spot, is to be had white, yellow, blue, red, and brown ; and though *Erebia Blandina*, the Scotch Argus butterfly, first discovered in the Island of Arran, is not here, it has been taken by the writer higher up the glen. The large dragon-fly, the bold tyrant of the insect tribes, is also cruising about, and woe to the bee, wasp, or butterfly it chooses to seize, for it devours without mercy.

Instead of returning as I came, I ascended the ridge on the left, whence passing along to the top of the Glen Rosie wood, I enjoyed in perfection the magnificent view this spot commands. (Arran and how to see it p. 38.) After an absence of three hours and a half I got back, in time for breakfast, well prepared to enjoy the whittings caught on the previous evening.



## CHAPTER XII.

### A THUNDER-STORM IN GLEN ROSIE.

“From peak to peak, the rattling crags among,  
Leaps the live thunder ! Not from one lone cloud,  
But every mountain now has found a tongue.”

WITH Mr Auld, a student in divinity, I crossed to Arran in the month of July, 1872. In the steamer we met Mr C—k, botanist, Paisley. He was on his way to the upper part of Glen Rosie to procure a rare plant. Our destination was Corrie ; but we resolved, for the sake of Mr C—k’s company, and the grandeur of the scenery, to go by Glen Rosie. Heavy rain had fallen on the previous day, and this morning was threatening ; but by the time we reached Brodick it had greatly improved, and though hot and sultry, the day was fine.

We noticed, as we ascended, the various points of interest. At Garbh Allt, Mr Auld remarked, “The Ceims appear to me like a band of giants, with gleaming spears pointed towards heaven, whom fierce Cir Mhor of dark beetling brow is leading to battle.”

On the right side of the Rosie stream, about a mile above this point, Mr C—k found, in a little tributary stream, the plant for which he had come—the beautiful *Batrachospermum vagum*. It is semi-gelatinous, resembling a fairy necklace of the softest and most delicate greenish blue, its beads are united by a chain of pellucid crystal, and the whole possessed of such flexibility that nothing can surpass its ease and grace of motion, for it obeys the slightest vibration of the water, and seems as if almost endowed with life. This very rare Alga was discovered in Arran by Mr Keddie, Glasgow, and is now known to grow in considerable abundance near the mill-dam on the ascent to Goatfell; on the slopes of Beinn Nuis; in the streams of the moor as one passes from the Lochranza road to Loch-na-Davie; and in the drain on the summit of the road betwixt Corrie and Lochranza, &c.

Near to it were several other interesting plants, as *Drosera rotundifolia*, *Drosera Anglica*, and another resembling *Drosera longifolia*, having its leaves broadened at their extremities, but which Professor Henedy pronounces only a variety of *Drosera Anglica*. Alongside of the *Droseræ* were *Pinguicula vulgaris* and *Pinguicula Lusitanica*. The latter was at one time considered so rare, that my father was in the habit of telling of a London botanist who, having visited Arran, repaid himself the expense of the trip by taking with him, on his return, an abundant supply of this plant, which he found no difficulty in disposing of in London. Now it is known to grow in the extreme south of England, and also around the lakes in Cumberland. Here, and in other

marshy places in Arran, it is abundant. Its leaf, about an inch in length by three-quarters in breadth, is yellowish green, while a brown mid-rib runs all its length, and sends forth on each side ribs of the same colour. Its structure is seen to be beautiful when held up betwixt the eye and the light. I delighted my companions by letting them view it through a powerful lens. Thus beheld, its texture is seen to be like net-work, and from the manner the light is reflected by its mesh-like cells it has the appearance of being frosted. Toward their margins the leaves are dotted over with little brown disk-shaped glands, surmounting tiny whitish stems. The stalk, three or four inches in height, supports a single little flower of mingled pink, yellow, and purple. The delicacy of its hues and substance is only fully perceived when viewed through a magnifying glass. The leaves are soft, and covered with a starchy mucilage—hence the name of the plant—*Pinguicula*, which may be translated “The darling little fat one”—or in the abbreviated language of the nursery, “*Wee Fatty*.”

But is “*Wee Fatty*” of any use? Yes, of much. It teaches us that our Heavenly Father admires what is beautiful, and would have us to do the same. Nor is this all. The Laplander loves the milk upon which he so largely subsists, coagulated and of an acid flavour, and finds that it thus agrees best with him. How is it brought to this condition? He gathers some *Pinguicula*, either of the *vulgaris* variety or of this, and having put it into a strainer, pours milk warm from the cow upon it, and in a day or two it is brought to the desired condition. Thus the *Pinguicula* is as useful as it is lovely.

At this spot our party separated, Mr Cook retraced his steps to return by the steamer, and Mr Auld and I betook ourselves to a rocky ledge, beside which the Glen Rosie stream, casting its spray around, dashed with the velocity of a little rapid. We selected the spot in the hope that the rush of waters would keep away two tormentors—"the cleg and the midge" (the gadfly and the gnat),—nor were we disappointed. Escaped from our enemies, and reclining on the hard rock, better than the most luxuriant couch if there the blood-suckers were operating upon us, we, with the keen relish which an early breakfast and mountain air always impart, enjoyed luncheon.

Our repast over, another separation took place, as I wished to examine anew the two corries on the Rosie side of the Ceims—the Saddle betwixt Glen Rosie and Glen Sannox being fixed upon as our place of meeting.

During the previous hour Mr Auld had several times said, "I should like to see a thunderstorm while we are in the glen,"—the idea being suggested by the state of the atmosphere, and the knowledge that there had been one in the south on the previous day. The wish was to be realised ; for I had only left him when in the distance I heard its mutter. Having viewed the more southern of the two corries, I passed toward the other, and on the intervening slope of the rugged Ceims, at a spot which commands both, and beneath

"Those giant slabs of granite old  
That mail the mountain's shelvy side,"

I sat down to enjoy the scene, which I could do at ease, as

at such a height I had nothing to fear from gnat or cleg. Beneath was Glen Rosie, here at its greatest breadth; on both sides were corries and mountains; Cir Mhor was at hand; so also the Saddle betwixt the two great Glens of Sannox and Rosie; while right in front towered the lofty Goatfell, seen from base to summit. The day was most favourable for such scenery—the sky almost covered with clouds, some of them dark and lowering, others light and fleecy. The scene was grand and ever changing. Now, dark clouds intercept the rays of the sun, bringing solemn gloom with enhanced grandeur. Again, the intervening clouds are light and fleecy, and the features of the scenery are only softened. Sometimes the sun's rays, darting through intervals in the clouds, lighten up small patches of the glen—their bright green contrasting most strikingly with the sombre hues of all around. But now a thin vapoury mist is seen ascending Glen Rosie, while a similar one issues from Glen Sannox. They meet in conflict opposite where I sit, and whirl upwards in wreathing columns, but that from Glen Sannox, coming from a longer, narrower, and deeper glen, prevails, and the mass is rolled over upon the slope of Goatfell, where it long continues resting in Goatfell's corrie, leaving a trail behind, and prolonging itself upon the south-west shoulder of the great mountain, thus explaining the phenomenon of the frequent cloud observed in that position. But this vapour is only a precursor; for now a mass, in appearance and volume like the smoke of a mighty furnace, appears upon the Saddle. It enlarges itself till it fills the entire space between Cir Mhor and



Goatfell—only the peaks of these mountains overtopping it—and rapidly advancing, soon I am enveloped by it; but ere long it clears away. Meantime the thunder had been increasing. Though at some distance eastward, it sounds as if it came from Goatfell's summit, and as I listen I do not wonder that in heathen times the tops of mountains were considered the meeting-places of the gods. How the loud roar echoes in the glen, and is re-echoed in Glen Iorsa from the sides of high Beinn Bharrain! Amid all this I am alone; nor man nor creature of any kind is near; not a house or sign of cultivation in sight; yet I am not alone, for Nature, mute in the great city or amid the crowd of fellow-men, now speaks. These mountain tops; these glens and corries; these rocks and streams; these winds and vapours, hold converse with me. In the thunder's dreadful majesty I hear the voice of the Almighty. He speaks to me.

Well nigh an hour had passed. I thought of my companion, and started for our appointed meeting-place. At the head of Glen Rosie are many streamlets, and several corries with their usual accompaniments of sweet pickings for cattle. It is not uncommon among the hills to alight upon places bearing the traces of having been occupied by man and his cattle. These are the sites of the *airidhean*, or shealings. In olden and more frugal times, when green crops were unknown, the young women of a farm in summer lived in these romantic retreats, having brought the cattle there that the grass of the plains might grow for winter fodder. Several places in Arran derive their names from

this custom, as Balary (Shealing Hamlet), Lochranza; Rudha Airidh Bheirg (Bheirg Shealing Point), at the Catacol Free Church; Rudha Airidh Dhughall (Dougall's Shealing Point), and Allt na h-Airidhe (Shealing Burn) near Dougrie. Blaran Boidheach (the Beautiful Green) at the junction of Allt Mhor and the Shurig Stream, Brodick, was also an Airidh. It is interesting to know that this system is in full operation at the present day in Sweden and other northern countries; and figures prominently in the stories and love-songs of these lands.

On reaching Mr Auld, I learned from him that as soon as he heard the muttering of the thunder in the distance, he had hastened to the Saddle as the best position for marking its effects. He told me that when the thick cloud passed through he could not see further than ten yards; and that the midges had greatly pestered him. He had seen two flashes of lightning. The intervening heights of Goatfell had prevented me from observing any.

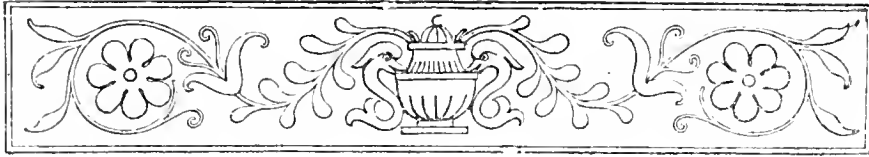
Leaving the Saddle we ascended the ridge toward Goatfell, having resolved to visit the ridge of the White Water glen. In passing to it we slightly shortened the way by cutting off a little of the angle at the top. When we reached the height thick clouds approached us, and though I had been frequently on the spot, for a minute my knowledge failed me, and turning in the wrong direction I found myself on a giddy precipice which overhangs Glen Sannox, where, as if an evil genius in the cloud had marked the error, the wreathing mass coiled round us; but again seeming to relent, the cloud rolled back. The situation was sublime.

In front and all around rose the dark peaked summits of mighty mountains, looking terrible amid the gloom—beneath, occupying the whole basin of the glen, the smoke-coloured clouds tumultuated like to a boiling caldron. Turning to my companion, I remarked, “Did you ever see anything so like hell as described by Milton or by Dante?” “No, never,” was the reply. Had the thunder continued its roar, and the lightning-flash lighted up and then lost itself in the murky gloom, the resemblance would have been perfect.

Retracing our steps, and running down the intervening slope, in a few minutes we reached the Saddle. Here, at an elevation of two thousand feet, grows a thriving plantation of native wood—some of it apparently old. What do you imagine is its height? About an inch! It is of the smallest of British shrubs,—a willow (*Salix herbacea*) which grows on the highest mountains, and though readily overlooked, it has a beauty of its own, as appears on examining its foliage.

In an hour and a half more we were viewing the Australian and New Zealand tree-ferns; and the Australian palms, acaciæ, and gum trees, in the garden of Cromla at Corrie. How delightful is a garden! In it we have shade, retirement, and refreshment. Apart from the food supplied by plants, we have in them a three-fold blessing—the attractiveness of the green leaf or beautiful flower—the sweetness of pleasant odours—and the promotion of health. How many pestilential regions are being rendered healthy by the planting of Blue Gums! while the perfume of Pines (*Coniferæ*)

Common Laurel, Sweet Bay, Sweet Gale, Lavender, Thyme, Mint, Lemon, &c., possesses, though in a less degree, the same beneficent quality. There is an excellent and well-situated hotel at mild, yet bracing and salubrious, Corrie. In summer a 'bus runs twice a day to Invercloy.



CORRIE TO BEINN BHARRAIN AND LOCH TANNA.

### CHAPTER XIII.

“All, all is still ; save when the savage scream  
Of eagle echoes through the lonely sky,  
Where, like dark speck, immoveable she hangs  
In the blue vault ;—or when an aged deer,  
Sole remnant of the herd, bounds nimbly by,  
And turns with look of wonder and reproach,  
To gaze on the intruder.”—*Dr Landsborough.*

MR AULD and I planned the following excursion—to take the morning omnibus to Brodick ; walk by the String road to the opposite side of the island, and return by Imachar and Lochranza to Corrie.

The day fixed upon proved fine ; but we were late in rising, and had only half breakfasted when the servant girl announced that the omnibus was passing. Rushing out of the house, we crossed, as the crow flies, the garden betwixt Cromla and the highway, and overtook the conveyance.

The drive from Corrie to Brodick is delightful, particularly in the early hours of a summer morning, and on this occasion was very enjoyable. Soon we were toiling up *The*

*String*, and ere long wending our way past Machrie ; and by the usual hour for breakfast we had reached Dougrie. Here we seated ourselves on the beach, at the spot where from the south side of the Iorsa stream the distant peak of Cir Mhor, for a few yards, comes in sight. We enjoyed the rest, the calm and tranquil scene, the sound of the soft rippings, and I may add the viands contained in our satchel—for, by this time, we were very hungry.

Long journeys do not admit of lengthened rest. We started speedily, and soon reached the spot where the telegraph wire enters the sea to pass to Kintyre. We then climbed the bold headland of Imachar. Here, as at the Craw Brae, south of Catacol, the highway ascends a height. What an advantage this gives in looking at the sea ! When the road is on a level with it we see only the profile of Father Neptune. But from a height we look down on his broad countenance and see his smiles, his calm repose, his frown, his wild and furious rage. Hence the sublimity of some coast drives, as that in Ayrshire from Girvan to Ballantrae.

At Imachar Beinn Bharrain comes boldly in view, and seems quite at hand. After gazing upon it for a little I said to my companion—"Corrie, is nearly opposite us—what say you to our climbing Beinn Bharrain and making our way thence to it by the crown of the Lochranza road ?" "I am most agreeable," was the reply ; so off we started. When half way up the mountain we made a halt, and while my companion enjoyed the Virginian weed, I lay down upon a rock and soon was fast asleep, and continued so till

aroused by Mr Auld. It is strange how much some persons are refreshed by a nap, however short. As unstringing restores elasticity to a bow, so their nerves and muscles are re-invigorated. I was refreshed.

The view from Beinn Bharrain is inferior to that from Goatfell and Caisteal Abhail; but is well worthy of a visit, though it were only for the grand exhibition of wall-like granite piles presented by the northern summit, and by one of the ridges running towards the coast, which, though on a smaller scale, much resemble "The Castles." In these granite heights during the process of gradual decomposition, tower-shaped masses have been left, and it is interesting to notice in them the mode of disintegration—how the granite cracks into great quadrangular blocks, thus giving the appearance of colossean mason-work to the perpendicular surface. (See illust. p. 23.) From the base of these castles, on another occasion, I was witness of an encounter betwixt a pair of peregrines and a raven, which an achromatic binocular glass rendered distinctly visible.

The falcons had their nest on a castle, and the raven which had built on a neighbouring one, approached nearer than the haughty falcons thought consistent with their dignity. Launching forth on rapid wing against the intruder, and rising high above, they came down with fell swoop, and for an instant it seemed they would at once bear the raven to the ground, as this, the favourite of British hawks, was trained to do the heron in the days of falconry. But the black knight was not so easily worsted, for as often as he heard the rapid rush above, at the critical moment he

cleverly turned upon his back, and uttering a loud scream of mingled alarm and defiance, presented his powerful claws and beak to the oncoming foe, the sight of which invariably caused them to sweep past without risking an encounter. This, with the same result, was repeated many times, for the raven for a time refusing to flee, continued to circle round the castle; but at length he retired to a respectful distance, when the falcons ceased their onslaught. We descended by Loch Dubh to Loch Tanna. This part of our trip, owing to continuous masses of loose stones, was very toilsome.

The situation of Loch Tanna is one in which the wild, the grand, and the desolate unite.

“In lonely regions, here retired  
From little scenes of art, great Nature dwells  
In awful solitude.”

On two former occasions I enjoyed in perfection the feelings this scene creates. I then remained by Loch Tanna till the sun had set behind the Beinn Bharrain range, and ere I left Iorsa's desert glen the shades of evening gathering on the lofty mountain peaks and deepening in the valleys beneath, rendered the view of the surrounding mountains marvelously grand; while the loneliness of the great glen of Iorsa became correspondingly sublime. I may add I have seen a somewhat similar effect produced at mid-day by a great black thunder-cloud travelling up the glen, and at length resting upon the tops of the mountains. To any who feel inclined to follow my example I may hint that though I sped my homeward course with rapid steps, Loch-



ranza road was not reached ere, by many a stumble, and falls not a few, I paid the penalty of my imprudence.

On this occasion we walked to the head of Loch Tanna, searching carefully for a rare plant—*Utricularia vulgaris*—which we found, but unfortunately it was not in flower. On the slope a little above the loch I had previously gathered the red Bear-berry, which at that time was not mentioned as having been found in Arran, though it was known to grow abundantly on the Holy Isle. Two Arran plants—the Cow-berry (*Vaccinium Vitus-Idæa*) and the Bear-berry (*Arbutus Uva-ursi*) are very similar in appearance to the Common Box ; but even when out of bloom they may easily be distinguished, the under surface of the leaf of the Cow-berry having the appearance of being pricked by a pin, while the leaf of the *Arbutus* is remarkable for its veining, which resembles the cuttings in the ward of a lock, or the figures of an arabesque pattern. The flower of the *Arbutus* resembles in form that of the Lily of the Valley, is waxy, white, tipped with pink, and very beautiful. The leaves are in high repute in the medical art, as furnishing an astringent which acts most beneficially in some internal diseases. They are rejected by sheep, goats, and cattle. Sheep when driven by hunger will partake of them, but are much injured by doing so. Its scarlet berries are a favourite of the moorfowl. Bruin also eats them—hence the name *Uva-ursa*, *i.e.*, Bear's grapes.

The Bear-berry blooms in April. Later in the season the moorland is adorned by the very beautiful Milkwort (*Polygala vulgaris*), resembling a little dark-blue humming-bird

with expanded wings; the bright golden *Potentilla* (*P. Tormentilla*), beautifully contrasting in colour with the Milkwort; the graceful Orchis (*Orchis maculata*) of spotted leaf, and with flower both spotted and streaked; *Gymnadenea conopsea*, of rose purple hue and delicious fragrance; the tapering spike of yellow, star-like *Bog Asphodel*; and the blue clustering heads of *Jasione montana*; while the whole is one mass of bloom with the Heather or Ling (*Calluna vulgaris*); and the cross-leaved or cluster, and the fine-leaved or purple Heaths, or Bell-heathers (*Erica Tetralix* and *E. Cinerea*). Thus does God adorn the moorland. Well may we exclaim, "O Lord, how manifold are thy works! in wisdom hast Thou made them all: the earth is full of Thy riches." Even in this lonely waste by how many voices is Thy praise proclaimed! The plant is abundant on the northern slopes of Glen Catacol.

From Loch Tanna we passed to the head of Glen Catacol, whence, neither of us having been at the spot before, we directed our course straight for the Lochranza road, and it looked as if our path would be comparatively level. Alas! we were mistaken, for suddenly we came upon the deep ravine of the principal tributary of the Catacol stream. It is true the ravine is beautiful, and in it grows abundantly the White Beam tree (*Pyrus Aria*), called by the nurserymen the French Rowan tree, which in its wild state is very rare, and, with the exception of a few specimens growing on the northern slopes of North Glen Sannox, is found nowhere else in Arran. But what was this to those who were by this time very hungry, for sandwiches appear much greater

in bulk on the breakfast table than on the mountain top, and our supply was by this time almost exhausted. Mr Auld, who a short time previously had been ailing, confesses it was with dismay he contemplated the long slope to be descended and ascended. But despondency will never carry men home ; so when we came to the stream we seated ourselves, and having carefully divided the scanty remains of our sandwiches, we, in sport, went through the process of “crying” the shares—that is, one who has shut his eyes decides which portion each receives. With our appetite rather whetted than appeased, we resumed our walk, and a few hours of vigorous pedestrianism brought us back to Corrie.



THE “FAIRY DELL ;” “THE RENTS ;” AND “THE  
SMUGGLER’S CAVE.”

CHAPTER XIV.

“No, ’tis not here that solitude is known,  
Through the wide world he only is alone  
Who lives not for another.”

ON the morning of Thursday, the 26th of July, I awoke before five o’clock. Getting up, I roused Mr Auld ; and in half an hour we were on the road. Our starting point was Corrie ; our destination the “Fairy Dell,” near Lochranza. The morning was good, and the barometer steady : yet, as the atmosphere was highly electrical, we carried umbrellas. The morning hours in summer are far the best for exercise. One is fresh from sleep ; the air is cool and bracing, and walking is thus a pleasure. Soon we were near to Lochranza. When opposite the first house on the north side of Glen Chalmadale, we crossed the stream by a little bridge, and crossed also a streamlet at

the house. Our route now lay right up the hill, and over the highest part of the high ground above it, then in the direction of the highest summit of the mountains which rise on the left of the entrance of Lochfyne, till attaining the crown of the seaward ridge—that is the spot where there is a slight descent landward, and a decided one toward the sea. Here, looking at the west of the entrance of Lochfyne, low cultivated land will be seen at the point, west of it cultivated land on an acclivity, next a point (Skipness), west of which there is a bay. Let Skipness Point be brought in a line with the highest summit, immediately beyond, and the descent of a hundred steps will lead to the “Great Rent.” The Fairy Dell is much nearer the sea, in the Lochranza direction.

The day had now completely overcast, and it was raining heavily. The places we had come to see neither of us had visited. We knew they were above the Scridan rocks; and hoped to discover them, but amid rain and mist this was hardly to be expected, and after wandering for some time we came upon the coast at North Newton farm-house. Here we received a kindly welcome from the farmer and his family. The daughter, a fine-looking young woman, spread before us an excellent repast of *scones*, butter, and milk—all of the best quality—inviting us also to partake of some fine whittings, caught the previous evening. We enjoyed and were refreshed by our second breakfast. After remaining for some time, hoping in vain for an improvement in the weather, we set out again; but this time with the certainty of success, for one of the

farmer's sons, an intelligent, stalwart youth of six feet three and a-half inches, kindly accompanied us.

Had the day been fair we should first have visited the Scridan where the cliff, about a century ago, gave way, and, like an avalanche, launched itself upon the beach beneath, causing the thunder of its fall to be heard both in Bute-shire and Argyle—"the disrupted rocks lying still in masses of such magnitude that, instead of being like a stream of stones, one might mistake them for so many Highland cottages that had been swept on toward the sea by a mountain torrent." But the day being very wet, and both of us having seen the place before, we at once ascended the hill side and soon reached the "Fairy Dell." It deserves the name, for on a bare hillside, without anything around to indicate the existence of such a place, you all at once come upon a fissure descending deep into the solid rock, and looking as if it had been scooped out by a preternatural power. Its precipitous sides are adorned and shaded by trees, and plants, and ferns, while the whole is on so small a scale as to astonish one ; for it resembled an Alpine gorge in miniature.

What we have named "The Rents," we next visited. Under our friend's guidance, a short time of vigorous walking brought us to them. Like the "Fairy Dell," they run at right angles to the coast, and not, as we had imagined, parallel to it. There is a considerable number of these rents, ranged in parallel lines. Their widths at the top vary from a few inches to nine or ten feet. They often close, and open again at a little distance. The depth at some places is

very great. Our guide informed us they were so deep that the bottom could not be seen. Determined to bring this to the proof, at the place where the opening is widest, I leapt upon a lower ledge, and, stretching across the chasm, leant myself upon the opposite side, and after gazing down for a sufficient time to accustom my eyes to the dim light, I at length, though with difficulty, discerned the bottom, and told my guide that I did so. "Come," he said, "I will show you a place where you will not." I resolved again to make a trial, and lying down, got the young giant to hold me by the heels while I stretched myself over the side as far as possible, and again strained my eyes to penetrate the gloomy depths, but this time in vain. Our guide told us that sheep were at times lost by falling into these treacherous spots, which they were the more apt to do, as in some places the mouth of the rent is almost covered by heather. On one occasion a lamb fell in, and reached the bottom without being killed. The bleating of the distressed mother attracted the farmer to the spot, where he could hear the lamb, though out of sight, replying from beneath to its mother's call. Procuring a rope twenty feet in length, he repaired to the spot with two of his sons. The father and one son held the rope, while the other son, by its help, descended the chasm; but when he had got as far as the rope would permit, the lamb was still out of sight, and, from the sound of its bleatings, he concluded that a rope of at least forty feet would have been needful to reach it. The father would not allow his son to descend such a depth, and the poor lamb was left to die. It may be added that

the writer has encountered a similar "rent" while descending the south side of the Holy Isle. Its mouth was almost clothed with heather, and he was much impressed with its dangerous character. No one has made any reference to it. Persons visiting these places must take heed to their footing.

Professor Ramsay, in his clear, comprehensive, and suggestive work, "The Geology of Arran"—a work which first brought him into notice, led to an appointment, resulting in his being now Director-General of the Geological Survey of the British Isles,—shows that the whole side of the hill, nearly a thousand feet in height, has been shaken, and the great mass of the beds of rock shifted from their original position, causing sideward rents, as well as casting the lower portion headlong upon the beach. The explanation he gives is that the under beds of rock overhanging the shore had become separated from the upper through the washing away of intermediate beds,—that probably water had insinuated itself, from above, hence the great slip, with all its features.

We took a wrong course in visiting these spots. We ought to have gone to Lochranza, from which they are distant about two and a-half miles. From Lochranza there are two roads. The hill road is the shorter—that by the shore the more level. Both command fine views—the higher the more grand—the lower the more picturesque. The latter passes Newton Point, the view from which is singularly fine (p. 52). The two roads join on the shore a mile beyond Newton Point. The Scridan (stony slope) is



rather more than half a mile further. On reaching it (it proclaims itself) an opening is seen in the face of the cliffs, to which ascend. Gentlemen may, from this, visit the Smuggler's Cave, by taking the path along the very base of the cliff. At its close, the front of the cliff has, when the district was convulsed, been cut perpendicularly off, and removed a few feet seaward, without being broken in the process. Pass betwixt the parts. On their further side is the Smuggler's Cave. It does not appear remarkable at first, but ascend till the mouth is reached, then descend its depths. The writer has advanced a hundred feet—the latter half in utter darkness; yet the roof was as high as at the mouth.

Having returned to the opposite side of the Scridan, ascend the hill, keeping close to the traces of the red-coloured cliff on the right. The path terminates in a deep cavity. The foot of the Fairy Dell is sixty steps above this cavity. The Rents are found by ascending from the top of the Fairy Dell till a second ridge is seen, near to the left extremity of which is a conspicuous gray patch (exposed conglomerate rock full of quartz), and a little beyond it a gully running from the foot of the ridge to its top. This is the greatest of the Rents.

Mr Auld and I returned as we had come. At the top of the hill there is in clear weather a magnificent view seaward; while landward the grand central mountains of the north of Arran (vignette, page 13) are beheld in great perfection. To-day nothing was visible, for it continued to rain in torrents. We reached Corrie in time for the afternoon 'bus, by which Mr Auld left. He was in a very unfit

state for travelling, for he said, “I am as wet as if drawn through the sea.”



## BRODICK TO LAG BY CATACOL.

### CHAPTER XV.

“ I love to stand on some high beetling rock,  
Or dusky brow of savage promontory,  
Watching the waves with all their white crests dancing,  
Come, like thick-plumed squadrons, to the shore  
Gallantly bounding.”

BY the twelve o'clock steamer on Tuesday, the 30th of April, I crossed from Ardrossan to Arran, with the intention of visiting its west coast. On board I met the Rev. Duncan M'Nicol, Catacol, who kindly invited me to spend the night with him.

The road from Brodick to Sannox has this peculiarity, that the whole of the way is almost on the margin of the sea ; while on the land-side there is the variety of both planted and natural wood, of caves, and cliffs, and cascades, of cultivated fields, barren moors, and great mountain ranges. There is thus very much that is interesting and attractive. The wood has an abundant under-growth of rhododendrons, looking green and bright at all seasons, and

gorgeous when in bloom ; while amidst it the deer is often seen, and at certain seasons the bellow of the stag is heard. The sea and shore present in unusual numbers its sights : vessels of all kinds are constantly passing ; several herons will be seen either sitting on some rock, the picture of patient vigilance, or, if on the wing, stretching out their long legs behind to serve as a rudder, nature having denied them the usual bird-rudder of a tail ; the *scart* or green cormorant is at times common, as also the great black cormorant, to which Milton compares Satan—" Sat like a cormorant," perhaps partly in allusion to its curious custom of sitting, often for long, with its wings half spread, resembling the posture painters frequently give to the wings of angels ; the gannet, always a grand object from its great breadth of wing (six feet from tip to tip), and from its magnificent plunge through the atmosphere and into the sea, forcing a jet of water into the air, and leaving a circle of snowy foam conspicuous from a distance. The black and white sea-piet, or oyster-catcher, also attracts attention by its red legs, and bill three inches in length, also red, with which it shovels off the limpets from the rocks. In winter the collection of birds is very great, ducks and curlews appearing by the score—for great reinforcements have been received from northern latitudes ; while in frost the inland lochs and moors have also sent their winged denizens to the coast. In the heat of summer the spring of good water which has been caught beneath Arran's greatest boulder, and led by a drain to the road-side, will at times be attractive.

In due time we reached Lochranza, where Mr M'Nicol

had a call or two to make on sick people; and I having received instructions from him not to tarry, and also an assurance that tea would speedily be in readiness, struck off the road at what was formerly the manse, and after taking a glance, in passing, at the little loch at the mill, proceeded up the hill-side to visit the foundations of a fort on a height above the Free Church.

Having satisfied myself with these—for little was to be seen—with lively anticipations of tea, I made for Mr M'Nicol's manse. Alas! it was not to be gained either so quickly or so easily as I had expected.

At first I directed my course straight for it; but mist and rain coming on, I thought it would be better to strike down upon the road; but this was more easily resolved upon than accomplished, for three obstacles were encountered. First, a swamp. "'Tis a pity to wet my feet," I thought, "as I have no change of shoes or stockings;" but there was no help for it. Next, a "scrub" of native wood, the remains of the ancient *Coillemore* (the great wood). Those who have not made the experiment have no idea how difficult it is in this country, or in any other, to penetrate wood whose planting no forester has superintended, and which the axe of the woodman has never thinned. Here my umbrella could not be used, and every branch, on being shaken, let fall a copious shower. But the anticipation of refreshment makes the hungry valiant, and at length I fought my way through, but only to encounter the third and most formidable of my obstacles. These were high cliffs. Twice I attempted to descend, but dangerous steeps compelled me to

return. The time was when I might have persevered ; but experience has taught me that the most *impressive* of all modes of learning one's weight is by a fall ; besides, the thought of wife and children makes one cautious. Ah ! may I never forget that the greatest of all falls was into sin ! —on which slippery ledge there is no footing, and from which, if the proffered hand of Jesus be not grasped, the next fall will be into hell ; when, too late, it will be learned that the soul, salvation, and the Saviour are so precious, that on no account should they have ever been in the slightest risked. My third attempt was successful, and at length, hungry and wet, yet, withal, laughing at my misfortunes, I arrived at the manse, where a suit of Mr M'Nicol's clothes, and a hearty meal, speedily made me comfortable.

Next morning was fine, and after breakfast I started for Lag, Mr M'Nicol giving me a convoy to the further end of Catacol Bay. In passing, we had a look up the noble glen of Catacol, from this point of view terminated by the peak of Beinn Nuis. Glen Catacol is seen to most advantage when viewed in sunshine from the ridge on its north side ; for thence the meandering stream in its centre, and the streamlets on the slopes on either side, appear, from the whiteness of their beds, as if they flowed with liquid silver.

Who is there having any taste for the sublime that has not longed to behold the heavenward soarings of the Bird of Jupiter ! Very few who now visit Arran are thus gratified. But formerly the sight was not uncommon ; for this noble island was then the home of the Golden Eagle—the finest of all the British species, and perhaps the most magnificent

of all the eagle family ; its breadth from tip to tip of wing being seven or eight feet, while in grandeur of general appearance it is excelled by none. Here, also, built the White-tailed Sea Eagle and the Osprey. After the others had been extirpated, the White-tailed still remained ; and as late as 1850, a pair of them constructed yearly their eyrie in Glen Catacol. But in that winter, the ledge of rock on which the nest was placed gave way, and the eagles—probably viewing the mishap as a timely warning—left. I rejoice to be able to add that strict orders have been given that no eagles are henceforth to be destroyed in any part of the island ; and as, with the exception of the Island of Skye, there is no part of the Western Hebrides more remarkable for the sublimity of its bird-haunts than Arran, it is hoped that ere long the savage loneliness of the Glens of Sannox, Rosa, Catacol, and Iorsa, already enhanced by the presence of the Red Deer, will be still further heightened by the wild scream of the King of Birds, as, from some proud cliff, with mighty pinion he launches himself into mid-air. In evidence of the likelihood of this, it may be mentioned that, in 1870, a pair of the White-tailed Sea Eagles returned to Glen Catacol, where they built a nest, though they afterwards forsook it ; and last spring (1872) two eyries of the Golden Eagle were found (I regret to add robbed) within sight of Arran. Should the deserted haunts of Arran be again occupied by these noble birds, it is hoped that no West-country landowner will allow his keeper to kill them, should they at any time venture beyond the boundaries of their own hunting ground. (See in the fourth edition of Dr Bryce's work on

Arran—"Birds of Arran," by Mr Robert Gray, Glasgow, author of an excellent work on the "Birds of the West of Scotland.")

With these pleas for the eagle, and also congratulations at the prospect of its return to Arran, let me present an earnest petition on behalf of another member of the royal family. Thirty years ago "The Royal Fern" abounded in Arran. It was common on the cliffs betwixt Brodick and Corrie; was found in North and South Sannox Glens; and not to mention other places, was most luxuriant, and indeed formed a most striking and beautiful feature of the cliffs betwixt Lochranza and Catacol. How great the change! In some of these places it is entirely, and in the rest to a very great extent, extirpated. Not content with what might be carried off by the hand, carts and boats have been freely employed; and where it would have been otherwise inaccessible, ladders have been used to despoil the fine cliffs of their leafy pride. If a stop is not speedily put to this vandalism, the royal plant will soon be as unknown in Arran as the royal bird. So near an approach has been made to this, that those engaged in the traffic now find it more easy to bring their stock by boats from Bute, Ardlamont, and Kintyre, than to search for it in the already despoiled glens and sea-cliffs of Arran.

All that is necessary to prevent the *extirpation* of the stately Fern is the prohibition of the use, or the lending to others for this purpose, of ladders, for without these, in many places, it could not be reached; and so abundantly does the plant shed its seed, that young specimens, to be



carried away if desirable, would be found in abundance beneath those places where the fully-matured plants would still remain in undiminished glory. It is earnestly hoped that something will be done ; for it is a disgrace to Arran to have been the headquarters of such a trade, and that now it should prove a harbour to those who carry their piracies into surrounding districts.

As Mr M'Nicol and I crossed Catacol Bay, I happened to tell him of a walk I had a short time before from Sanquhar to Wanlockhead. I had read in Dean Stanley's "Sinai and Palestine" that the road betwixt these two places very much resembles that betwixt Jaffa and Jerusalem, and I thought that, while not likely ever to view the scenery along this approach to Jerusalem, I might at least visit its counterpart in that leading to the Lead Hills. After describing the narrow defile, hemmed in on either side, and seemingly also in front, by high rounded mountains, I mentioned that, having paid some attention to the cairns in Arran, I had been interested by finding there one of recent construction, which had been erected by the people of the district to mark the spot where, as my fellow-traveller (a carter) expressed it, a poor woman had been "both killed and drowned." I told him that the same person had also mentioned, as a peculiarity of the narrow defile, that very frequently the wind, as on this day, blew on their back at the foot of the glen ; but when they arrived at a certain point it was full in their face ; and sure enough, when we came to the spot, I found it as he had told me. "Why," said Mr M'Nicol, "we have something very similar where we now

stand, for the wind frequently blows on one's back at the one side of this bay, and in one's face at the other. "This," he added, "is very conspicuous at times during a great gale, when the two blasts, like contending furies, meet in the centre of the bay, and agitate the sea and throw aloft the *spindrift* (spray) in a way truly fearful."

The road southwards from Catacol has many attractions. The seaward view is very pleasing, especially when beheld toward evening. One of the features of the walk is the abundance of natural wood everywhere adorning the cliff, and in many places also the hill-side above it.

There is a beauty in natural wood peculiar to itself. That which has been planted looks dull from its uniformity of outline and colour; while the trees of the natural wood being of different kinds and varying ages, present variety in both. In reality, the modern science of landscape gardening is only an attempt at perfecting the lessons given by the rocky cliff, the mountain stream, and the wild wood. Nothing can be finer than the effect produced at Brodick by planting—where the waters of the bay, the cultivated fields, and the rich and dark plantations of pine constitute a triple border, adorning the flowing skirts of the magnificent mountain ranges. These forests are also in fine harmony with the long undulating slopes, clothed with purple heather, from which the mountain tops rise in naked and rugged sublimity. But it is totally different with the cliff, the cascade, and the rocky stream. There for ever grow the Birch, the Rowan Tree, and the Wild Oak, the Whin, the Broom, the Heath, the Wild Rose, and the Fern; for here "nature

unadorned is adorned the most ;” and variety of colouring and freedom of outline constitute the very soul of the picturesque. This is the scenery enjoyed, as with easy step we perambulate the coast of Arran. Our sense of smell is also gratified by the perfume of the “Gale,” sweeter than any Myrtle ; while the Birch—the fragrant “Lady of the Wood”—is often rendered doubly sweet by being entwined with the Woodbine, breathing upon the soft evening air an aroma worthy of “Araby the blest.” Nor is song wanting ; for the feathered tribe, grateful for the abundance of berries supplied by the trees and plants of the moor, the rocky sea-cliff, and the wild ravine, pour forth a chorus of the richest, sweetest, and most varied minstrelsy.

After passing the Free Church, “those having a taste for geology cannot fail to be delighted with the fantastic forms which the schistose rocks assume,—now twisted like the roots of gnarled oak, and at other times appearing like the scattered fragments of some ancient castle.”

The special object of my present trip was to visit Coire Shruan (the Corrie of Streamlets), on the same level as Coire-an-Lochan, but rather more than a mile further south. It is reached by passing straight up the hill from Penrioc. I had visited it on a previous occasion, and the view I then obtained was the cause of my return to-day. Then a cloud rested over the scene and enveloped the tops of the surrounding mountains, causing the corrie to resemble a vast cave, whose misty and sombre look made it appear greatly larger than it is in reality, and from the same cause the surrounding peaks looked proportionately more stately.

The sea-view was also very striking ; for while the opposite coast was not seen, yet, from the state of the atmosphere the ships in the sound appeared as if they floated suspended in the air, while the intervening sea seemed far beneath them. So much was I struck by the sight, that I resolved to return on a clearer day, that I might enjoy it more fully.

That day had come, and I was again viewing the scene. What a change ! All was now bright, the mountain tops surrounding the corrie sharply defined, and the view toward the sea perfectly clear. What was the result ? Disappointment. The corrie was indeed striking, and the sea view pleasing ; but the imagination had no scope. I saw all that was to be seen, and the real picture did not approach in grandeur to that which the imagination, called into fullest exercise by a few striking features, had sketched. How often is this the case ! Let us rejoice that with Christ and the things of His kingdom disappointment is impossible.

I might have returned to the road and proceeded along it to Dougrie, but preferred taking the straight course by the moor. Here I had an encounter with an adder, upon which I had almost planted my foot. Warned of its presence by its hiss, I killed it with my umbrella. It was a large and fine specimen, and after admiring, I deposited it in my vasculum.

Only one of the three serpents, natives of Britain, is found in Arran ; but it is the poisonous adder or viper (*Pelias Berus*). It is much less common than formerly. Hill-drainage, with increase of sheep, accounts for the diminution ;

for sheep have a decided antipathy to the viper, and cleverly kill it by leaping upon it with their fore-feet. Master Adder is an accomplished gentleman—he can spring, swim, and climb trees. His bite causes severe inflammation, though less so than in hotter countries. Fortunately, he is cowardly, and very rarely attacks. The danger lies in inadvertently planting one's foot upon him; though this is generally prevented by his hiss. His bite should be sucked, butter or oil applied, and stimulants taken. He is not found in swampy ground; nor does he ascend more than about a thousand feet. Boots or shoes, with thick worsted stockings, should be worn by those traversing Arran's glens. The serpent-like Blind or Slow-Worm (*Anguis fragilis*), though rare, exists in Arran; but it is ranked by anatomists with Lizards. It has not the triangular head of the Adder, and is harmless.

When on the height a little to the north-east of Dougrie, I had a view of the fine pinnacle of Cir Mhor. The sight was exhilarating, but by forsaking the highway I missed Clach-nan-Seudan, *i.e.*, the Jewel Stone, a large granite boulder on the road-side betwixt Imachar and Dougrie, where all are allowed to help themselves!

At Dougrie, I was reminded of a visit my father, a brother, and I, in the summer of 1841, made to the Rev. Dr N. Paterson, grandson of "Old Mortality," and author of "The Manse Garden," when a whole day had been spent, by my brother and myself, in plying the rod among the salmon, and sea and burn trout, of the Iorsa stream, then unprotected.

Dr Paterson had the reputation of being the best fisher in

Scotland. Despising ordinary line for trout-fishing, he made use of one of single hair; and books on fishing still record that on one occasion he caught with it a salmon. The last time I visited the delightful old gentleman, referring to this he said—"I see my feat of taking a salmon with a line of single hair is mentioned in the last work on fishing; but I never said it was fourteen pounds weight, for it was only four. As it was," he added, with a smile, "I do not think I should have been believed had I not fortunately had witnesses when it was landed." "It would be most exciting," I said, "to have such a fish only secured by a single hair." "Oh, just tremendous, for the chances were all against me; but by patience and skill I triumphed."

As Iorsa is a salmon stream, let the Doctor relate the joy of taking the king of fish. "Arrochar, 28th July, 1848.—The weather is horrible, as most people would reckon it, but I have never enjoyed a season more, for the floods have been glorious. I am often wet to the skin without knowing it, and the high temperature of my spirits prevents all injury. One day I lost a salmon in an impracticable place; I was like to eat my fingers on finding afterwards that I might have saved it by jumping in up to the shoulders. I absolutely could not sleep for some nights, and found the wound incurable, except by working until I should have one on as good. One of three or four pounds gave no relief. At last, after several days, 'Here is something now!' I was on a high rock on the Fyne, no trees, and my position admirable; but I had a broken rod, tied like laying two fingers together; still care and composure would do. But those shaking hands!

I felt my pockets for my flask, but it was not there. After five or ten minutes—for it is impossible in such circumstances to guess—I looked my watch. This was partly to make me believe that I was calm. Up he got from the depths and leapt three feet, not in height, but in length, out of the water to frighten me ; which he did, being two feet long, and as broad as a sow, that is, in proportion. He ran till the rod was like to go, and the line nearly all out. But I could run too. Without leaping in up to the shoulders, without clip or gaff, or a human being in sight, I sat down and looked at my prize lying on the grass. I am now satisfied for the rest of my days.” \*

Of our visit my father writes : “ We found the Doctor and his three boys in the best lodgings in the *town* of Dougrie (now gone), for so a cluster of houses is called. The approach to their state-room, their only apartment, was through the kitchen, from which it was separated by a door which, even when shut, afforded free ingress and egress to the company that occasionally visited them. The dogs and cats found ready *ische* (exit) and entrance under the door ; and the hens, without let or hindrance, could fly above it. A man’s life consisteth not in the abundance of his possessions, nor in the elegance of his apartments, for with this wayfaring lodge my happy-minded friend was quite delighted ; and a happier group than it then contained is seldom, I suspect, to be found in the splendid mansions of the great.”

At Auchencar (the Field of the Stones) I passed two

\* Letters to his family by the Rev. Nathaniel Paterson, D.D.

“standing stones” (*Menhirs*), equal in height to those of the famous circle of Stennis in Orkney, and only about three feet lower than those of Stonehenge. The one, still erect, is eighteen feet long above ground, six broad, and rather more than one thick. The other, fallen, and also broken, is twenty-two feet eight inches in length. Both the stones are granite, and have been brought from the mountains. At the north end of the red sandstone cliffs, a little beyond Auchencar, is a very primitive burying-ground. Immediately after passing the cliffs the road divides, the upper leading to Brodick; the lower, which I followed, to the Machrie stream. A few stone-casts above this spot is Machrie Linn, where the water has worn for itself a deep channel in the sandstone rock. Here, in the season, salmon may often be seen in the deep pools. A few years ago there was a fall too high for the salmon to leap, though, after a flood many might be seen making the attempt. The Duke had pity upon the salmon and got the fall cut.

On reaching the Machrie, cross it, and follow the path by the river-side till the main road is again joined. Shedog Inn is well kept, but I pushed on to Lag, which I reached late in the evening.

Next morning before breakfast I visited Bennan Head, returning after the absence of a few hours. I had left my vasculum upon the bedroom table. It was fortunate that the chamber-maid, with the curiosity attributed to her sex, did not take a look at its contents; for the *dead serpent* had come alive, and neither now nor afterwards seemed anything the worse of the *killing* I had given it.



After breakfast I passed down by the right side of the little Torrylin stream to the shore—visiting, in passing, the sepulchral cairn which faces the sea, within the enclosure of the field to the left. It consists of a vast heap of stones. When examined these were found to be intersected from east to west by a row of vaults, consisting each of six unhewn slabs, from five to six feet square. These vaults were filled with human bones, some of which were cleft—as if from blows of an axe or hatchet.

I also took a look at the very singular natural harbour of South-End. Here, many years previously, I had spent, during low water, a couple of hours with my father, and though I knew nothing of natural history in comparison with one who had added thirty-five to the list of the known plants and animals of Scotland—three of these being also new to Britain, and six more not known to have been found anywhere before—yet, so strangely did the tide of fortune run that day, that while he found nothing of any consequence, he writes of my success :—“ He got *Ægires punctilucens*, so rare, that till Mr Alder discovered it at Ardrossan, only one example had ever been found. He also succeeded in finding a rare zoophyte, *Lucernaria quadricornis*, new to Britain, when Mr Alder got it at Ardrossan a fortnight before ; but which Dr Johnson thinks may be a variety of *Lucernaria fascicularis*. He found also another *Lucernaria* new to us and also to Mr Alder ;” regarding which Mr Alder is afterwards quoted as writing—“ I got this morning the first part of Sars’s *Fauna Littoralis Norvegiæ*, and in it I find figured and described the *Lucernaria* that your son found in Arran,

which puzzled us so much at the time. Sars names it *Lucernaria Cyathiformis*." My father adds, "This is new to Britain."

One of these little animals, *Ægires punctilucens*, while at first sight unattractive, is, when examined, very marvellous. The little creature is about three-quarters of an inch in length, and a twelfth of an inch in breadth. Its body is dotted over with tubercles, its head surmounted with horns, while from the centre of its back rise several branch-looking plumes, which are not simply ornamental, as we might imagine, but are in reality the lungs of the little animal,—God placing them in the position and fashioning them into the shape which brings the blood circulating through them most fully into contact with the air contained in the water, which is further promoted by the continual motion of that element. Its general colour is fawn ; the tubercles of the lightest rose hue. These surround little spaces of a rich velvety brown, rimmed with dots of a dark chocolate brown or black ; while in their centres gleam gem-like spots of various sizes and of the most brilliant azure blue or emerald green, varying according to the light in which they are beheld. A display of about forty of these sparkling emerald and sapphire-like spots, with their ornamental settings, adorn the little mollusk.

There are several roads by which I might have proceeded to Lamlash. I chose the nearest though roughest of them—that by Auchareoch. In starting, I went a little out of my way to visit, for the sake of old remembrances, Kilmory Established Church. Here, in 1842, I had beheld one

of the spectacles which leave their impression for a lifetime. It was a Highland communion, at one of the places where such gatherings were greatest. Then all the inhabitants of Arran were connected with the Establishment; for though there was a small Independent Church at Sannox, the excellent minister there was quite contented that those who attended his ministrations should remain members of the Established Church.

What a sight this secluded spot presented on the occasion on which I was present. The steamboat had brought as many as it could carry from Brodick and Lamlash; while light carts and peat-creels from early dawn had thronged the roads. As for those in health, many coming from a distance had started on the previous day; but if they had not, twenty miles, or even more, was little thought of by an Arran man or woman on such an occasion.

The scene was such as I had never beheld before. What at first most struck me was the wonderful number of horses and carts. The preaching at the tent (open-air), was in Gaelic; that in the church in English. We left long before the service was ended. Never can I forget the effect produced by the sacred music, sung with the utmost heartiness by that vast multitude, as borne upon the breeze it fell upon my ears at a distance. My visit to Kilmory that day enabled me to realise, better than I otherwise could, the time when our forefathers were wont, at the risk of their lives, to attend such gatherings—being willing at any cost to honour Christ, and to maintain the spiritual and civil liberties of their country.

When near to Auchareoeh, I came within sight of Auchellean. At this dreary spot, in 1745, the Hon. Charles Boyd, son of the unfortunate Lord Kilmarnock, remained concealed till he had an opportunity of escaping to France. Further up the same glen, to the left, is *Carn Ban* (the White Cairn), said to have been erected in connection with a battle fought in ancient times, with bow and arrow, betwixt the Stewarts and the M'Kinnons. Passing onward, I soon reached the little stream flowing from Loch Urie, and crossing the road a little before Lamrash comes in sight. Loch Urie, which is of considerable size, is about half a mile further up the hill. A strange oversight in connection with this loch has been made by writers on Arran. They have referred to the double outflow from Loch-na-Davie as a geographical arrangement, so singular that its possibility had been doubted, yet one and all of them have failed to notice that Loch Urie, which is more than a quarter of a mile in length, and in comparison with which Loch-na-Davie is a mere pool, outflows from both extremities.

The maps of Arran issued by the Ordnance Survey are most beautiful, prepared at the cost of very great time and pains, and it is a high delight to see and study them. Yet, even from them one learns two lessons. (1st) Beware of concluding that even an Ordnance Survey map is infallible. If inclined to do so, witness Carn Ban, just mentioned, marked a *circle*; witness also Loch Dubh on the eastern slope of Beinn Bharrain, and nearly a quarter of a mile in length, laid down in it without outlet of any kind. Surely the clouds have been more kindly to the officers connected

with the Survey than they are wont to be to *saut-water folk* ! (2d) Beware of inferences. Looking at their map, one can see no difference in the tracing which indicates the road from Bennecarrigan to Lamlash, and that which marks the one betwixt Lag and it ; and a person knowing that the one is an excellent carriage road, might infer that the other would be the same. But, alas for the luckless wight who, doing so, should find himself on a misty day in the wild desolate moor on the Lamlash side of Auchareoch, where, doubtless, there is a path, but such as not one stranger in a thousand could follow. So late as 1820, in some parts of the highway between Glasgow and Kilmarnock, the wheel-tracks were so deep that the bugle of the royal mail was sounded for vehicles to draw altogether aside, lest in attempting to get out of the rut the top-heavy machine should upset.

At the highest part of the road above Lamlash a fine view is had of Ailsa and the south. As one descends toward Lamlash, the northern mountains of Arran are beheld in a very striking aspect. Here the road is very bad, yet it is only a specimen of the roads, with corresponding state of agriculture, which were common in Scotland in the beginning of last century. Thus, in the "History of Rutherglen and East Kilbride," by the Rev. David Ure, published in 1793, we read, "There was not, about seventy years ago, a *wheel-cart* (*sic.*, distinguishing from a sledge) in East Kilbride, and very few sledges. The roads were so bad as not easily to admit of either. Lime, coal, &c., were carried on horse-back. The first cart in the parish was, soon after it was

made, employed carrying a few coals from Cambuslang. Crowds of people went out to see the wonderful machine. They looked on with surprise, and returned with astonishment !



LAMLASH TO LAG, LITTLE MILL, AND WHITING BAY.

## CHAPTER XVI.

“Oft let me wander through the dewy fields,  
Where freshness breathes, and dash the trembling drops  
From the bent bush, as through the verdant maze  
My devious path I fitfully pursue.”

ON the 18th of September, 1872, I crossed to Arran, and landed at Lamlash, where I took the road by the Monamore and Scorrodale Glens to Sliddery. The earlier part of this walk is very interesting and enjoyable, on account of the imposing character of Monamore Glen, which has been hollowed to a great depth by the stream from Loch Urie; and also the varying character of the many fine views toward Lamlash Bay, which the winding road presents. Reaching the main road near Sliddery Waterfoot, I passed along it eastward to Clauchog farm, tenanted by Mr Speirs, on whom I called, and requested permission to visit the tumulus in front of his house, said by some to be the grave of Ossian. He received me most kindly, and

conducted me to the spot. The mound was opened some years ago, and a cist found containing bones. Ossian,—so grand, so lonely, and so sad,—the bard of mist and cloud, of wind, and wave, and lonely mountain,—is now little read; yet an Italian translation of his poems formed almost the whole poetical library of Napoleon.

At the height whence the road begins to descend into the deep hollow, in which sweet Lag reposes, I diverged towards the sea, and visited graves which, though not so remarkable, much resemble those of “The Giants” at Whiting Bay. In both there are two distinct burying places. Tradition says the dog of the deceased was interred in the lesser, that the warrior in the hunting ground of departed spirits might be attended by his canine follower. How vividly these rude stones, with their accompanying legends, recall the time when our ancestors were as savage and as heathenish as the wildest of the Red Indians of America! Continuing my course by the Lag stream for a little, I at length crossed it by a little bridge, and returned by a sequestered road to the highway. It was now getting late, and having reached Little Mill (so named to distinguish it from Lag, where there is a larger mill), and called on the Rev. Hugh Munro, I gladly availed myself of his kind invitation to remain over night.

Next day I was early afoot, and was amply rewarded, for the morning was bright, and the view from the lovely little bay most charming. On its south entrance lies Pladda with its lighthouse; on its north the bold headland of Bennan; and beyond it the south end of Kintyre, with the



islands of Sheep and Sanda at its extremity ; while right in front, in the middle of the sea, towers the majestic cone of Ailsa, with the illimitable ocean beyond. The view is altogether unique ; and in its open, picturesque, and expansive beauty seldom surpassed. Had time permitted, I would also have visited the fine waterfall above, with its grand encircling precipices. I associate with this lovely bay a plant growing abundantly here, as in marshy spots generally, and blooming in August. It is the most graceful of all our native flowers—the grass of Parnassus (*Parnassia palustris*), a name sacred to the Muses. The stem is tall and elegant ; and its buttercup-shaped single flower of a cream-white colour—the petals of great substance, and finely grooved by pellucid veins, so that, when looked through, they present the shaded beauty of a transparency. But it is upon the centre of the flower that ornament has been lavished. The large white head is surrounded by an inner circle of short green leaves (the nectary). From their edges rise white filaments arranged with geometrical perfection of outline, the extremity of each adorned with little yellow wax-like balls, passing from the globular to the pear-shape in accordance with the position they occupy. Illumination devices often look as if copies of this beauty of the marsh. Were the writer giving a name to the plant, he would call it “The Bride.”

By its side grows the silver-rayed, golden-eyed, and ‘crimson-tipped, modest’ Daisy (Day’s-eye), the “Star of the Mead”—of old the emblem of true love. Sweet, sympathetic little flower, unfolding thy rays as oft as the sun

shines upon thee, and closing them when he withdraws himself, thou didst associate thyself with our simple joys of childhood ! A weed thou art called, and beside the display of the garden little regarded ; yet of all flowers thou art most loved. Let us be taught by thee, and we shall be loved too !

After breakfast I started for Lamlash. At Kildonan I visited the old castle ; whence I proceeded by the shore to Largiebeg, passing along the base of the fine cliffs of Dippin Head. Above these is "The Lodge." It was built by the late Duke. Standing alone, above high cliffs, and almost overhanging the blue sea, whose waves dash with tremendous force beneath, its situation is grand and romantic. There is only another spot in Arran to equal it ; but that is incomparably the grandest of all. I refer to the height above the blue Rock at Sannox.

Whiting Bay reminded me of a singular adventure. I, when a boy, had with two companions gone out to fish in the bay. While thus enjoying ourselves, our attention was attracted by a strange noise, and, looking up, we saw two whales sporting at its northern entrance. Down they plunged and in a few minutes came up again, when one of them left the bay. Not so the other, which again went down, making direct for us. A few minutes' suspense, and leviathan, causing the deep to boil like a pot, rose alongside of us, betwixt us and the beach. Here it spouted aloft, and, having raised its huge back a considerable way out of the water, again plunged, and to our great relief took its departure. As far as we could judge, it was about thirty feet

in length. So nervous had one of my companions become, that he insisted on our at once pulling him ashore. Poor fellow ! he was afterwards drowned by the upsetting of a boat ; when he could have saved himself, but was lost through his efforts to save the life of another. My other companion had already had a very narrow escape, and been saved at the expense of life. In this very bay, he and two elder brothers were cast into the sea, also through their boat being upset. He could not swim, but they could, and taking him betwixt them, they made for the beach, but, ere it was reached, one of them turning to the other said, "John, I can swim no further ; save Adam ;" and sank. John knowing that he could not save both, did as he was bidden, and bore his little brother to the shore. Here all the time their parents had stood witnesses of the gallantry of their sons ; but, alas ! also witnesses of the death of one of them, while they could do nothing to save him. Such are the sore trials of life !

Let every boy learn to swim. The writer was taught by one lesson. All my brothers were swimmers. I could swim under water ; this only requiring the motion of the lower limbs ; and though it can only be continued so long as one can keep from breathing, I had thus been able to save myself when swept into deep water while fording the river Garnock. But swim aright I could not, for as often as I tried my head bobbed up and down like the cork of a line when a fish has taken the bait. Besides, no progress was made ; while a gulp of water at each succeeding bob entered mouth and nostrils. Every attempt to overcome this difficulty had ended in

failure, so that I had settled down in the belief that further effort was hopeless.

Such was the state of matters when, in my sixteenth year, the Rev. N. Paterson, D.D., came on a visit to my father. He was perfectly at home in the water, and happening to ask me if I could swim, I, in reply, told him how it was with me. At once he comprehended my difficulty, and said, "If you like I will teach you." I replied, "I shall be delighted." "I will do it to-morrow," he said; "only you must do what I tell you." I promised I would. Next day we repaired to the shore. I knew he was to leave the following morning, and had no expectation that he would succeed in teaching me; but resolved to do my best. The lesson was simple. He told me to take a good breath, and having laid myself on my breast on the water, heedless whether I floated or sank, to let him see how long I could lie without motion. I lay as long as the breath permitted. "Very well," he said, "you see you have this length of time at your disposal. Now lie down again, and during it draw up your legs, and as you do so push out your arms, holding your hands, with fingers touching each other, fully expanded in a horizontal position in the water. When your hands meet in front, push, at the same time, both hands and feet backwards, and remember you do the whole so slowly that all your time is taken to do this once." I did so. Again and again he made me repeat this. "Now," he said, "do it twice in the same time; and be sure that while you are drawing up your legs you are pushing out your arms, and that you move both backwards at the same time—making both feet and hands

always move *in the same direction*." This was repeated several times. "Do it," he now said, "three times in the same amount of time." I did it. "Do it again." I repeated it. "Now," he said, "*you can swim*." Sure enough I had moved forward, and my head was free of the bobbing (caused by hands and feet moving in opposite directions), which had hitherto been my torment. But by this time I had been so long in the water that I was becoming paralyzed by cold, and could continue the exercise no longer.

Early next day the Doctor left. In the forenoon I betook myself again to the same spot, to see if my enthusiastic teacher had been right when he said *I could swim*, for I still feared that this was too good news to be true. The Doctor was right, *I could swim*, not far indeed at first, for strict attention was necessary to see that legs and arms were always moved *in the same direction*; but every day, at all suitable, I was in the water, and ere long swimming became as natural to me as to a frog.

The scenery along the whole of the east coast of Arran is of the most varied character. Few drives in Scotland, if any, are equal to that between Kildonan in the South of Arran and Lochranza in the North. "One of the characteristics of Arran is the number of places along the coast where—the cliffs receding a little—a lovely nook is seen scooped out, surrounded by a munition of rocks, forming a spot of surpassing beauty. It seems designed for a happy habitation—a tasteful marine villa, with enough of ground betwixt it and the bounding cliffs to form a garden open to the sun

and sheltered from wintry blasts. Do any of my readers say,

‘Oh ! that for me some home like this would smile’ ?

Many, we doubt not, do so.”

In these excursions how often have I quoted the writings of one whom to know was to love and revere ! With the exception of her who was laid in an early grave, no one was more with him than myself. What delight he had in nature, and much more in nature’s God ! How his eye was wont to beam and his face to shine while he viewed grand scenery, or gazed on the beauty of a little flower ! How delightful were my excursions with him in this noble island ! But he was removed : and often, very often, have my thoughts been in the past, as I have since pursued my lonely walk. How strange we do not think more frequently, more lovingly and longingly, of that home, in the heavenly world, where all the humble and holy shall meet,—where God and the Lamb shall be with them, and abide with them for ever ! Would that we better loved and served that glorious One—perfect man yet perfect God, who, by his sufferings and death, hath purchased for the guilty all this glory ! But let us ever remember that without holiness we can never possess it ! Thou divine Spirit, proceeding from the Father and the Son, Thou only canst make us holy !

PART II.

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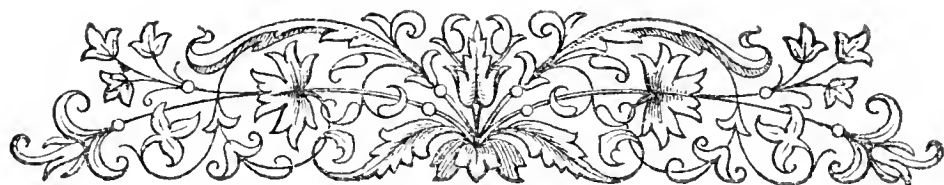
NATURAL HISTORY OF ARRAN,

WITH

MEMOIR OF DR LANDSBOROUGH.







## MEMOIR OF DR LANDSBOROUGH.

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**D**R LANDSBOROUGH was born on the eleventh of August, 1779, at Dalry, in the Glen Kens of Galloway.

The whole district of Glen Kens is of most attractive beauty. In its upper portion the silver Ken flows through a fertile vale, bounded by high hills, from which romantic streams, amid rocks and precipices, ferny banks and wild-wood glades, pour their tributary waters. Its centre, the lovely lake of Ken, studded with little islets, has its smooth and grassy banks richly fringed with natural wood, to which dark Lowran's lofty peak and Bennan's wood-crowned summit form a noble background. Antiquity and poetry add to the lake the glamour of their charms ; for the venerable Castle of Kenmure, with its avenue of ancient limes, and its many associations of bygone days, presides over the head of the loch ; while its foot, where

the name Ken surrenders to that of Dee, is the scene of Lowe's exquisite poem—"Mary's Dream" :

' The moon had climbed the highest hill,  
Where eagles big aboon the Dee," &c.

Nor are sacred associations awanting ;—for here lived Lady Kenmure, to whom the banished Rutherford addressed many of his seraphic letters ; while in this district many of those of whom the world was not worthy laid down their lives—"bold to resist a tyrant's rage, and strong to die for Christ, His Crown, and Covenant."

Such scenes could not fail deeply to impress one of young Landsborough's sensibility ; and in after life we find him frequently referring to them, as in the following quotation :

" The feelings I recalled of early youth,  
When leaning o'er a stone with moss o'ergrown  
I traced the words, the solemn words, it bore ;  
And weeping, read of ' faithful martyrs slain  
By cruel Clavers and his bloody band ' ;  
And read again, and felt the generous burst  
Of indignation mingling with my tears.  
On hallowed ground I stood, and silver Ken,  
In gliding near my feet, still seemed to sob,  
As in remembrance of those days of blood."

The Landsborough motto is "Fear God and Fight." In the great struggle in the latter half of the seventeenth century for the Kingship of Christ, an ancestor did his part so well that he was at length compelled, with his family, to flee to Ireland, where they remained till the Revolution.

The father of Mr Landsborough was of that noble peasantry of which Scotland has so much cause to be proud, and from which many of her best sons have sprung. He gave his only son such an education as the district afforded ; and at school the progress he made awakened in the father what has ever been the highest ambition of the Scottish peasant—the desire to give his son a college education. David was accordingly sent to the academy at Dumfries ; and in 1798 he joined the band of youths who at the commencement of each session walked from Galloway to Edinburgh's famous University. Here the student from Glen Kens highly distinguished himself ; and by and by we find him tutor in the family of Lord Glenlee, of Barskimming, Ayrshire, a place, along with Lord Glenlee's learned father, Lord President Miller, with so much elegance described by Burns :—

“Through many a wild, romantic grove,  
Near many a hermit-fancied cove,  
Fit haunts for friendship or for love ;  
In musing mood  
An aged judge I saw him rove,  
Dispensing good.”

Mr Landsborough had at this time the great privilege of the friendship of the distinguished metaphysician, Dr Thomas Brown. He enjoyed also the intimacy of the not less distinguished minister of Duddingstone, the Rev. John Thomson—in his day the best landscape painter in Scotland, and often styled “The Scottish Claude Lorraine.” The friends were

admirably suited to each other. Mr Thomson, in addition to his skill in painting, had a fine musical ear. Mr Landsborough excelled so much in music that he was advised to make it his profession ; while he had a delicate eye for the glowing beauties of the painter's canvas. Many were the visits paid to Duddingstone manse—invitations to it generally concluding with—"Bring your flute ;" while in after days the walls of Mr Landsborough's manse were adorned by several paintings presented to him by his friend :—

" O, for the pencil of my early friend,  
Near Duddingstone's sweet lake ; and for the skill  
With which he makes the glowing canvas vie,  
Or with the loveliest, or with the wildest scenes  
The landscape can exhibit." (Arran.)

Mr Landsborough was licensed to preach in 1807 ; but, as was customary in those days, he after license retained his tutorship. During this period he frequently preached in St. Andrew's Church, Edinburgh, and was for a short time assistant to the Rev. Dr Auld, Old Church, Ayr.

In 1811 the parish of Stevenston became vacant. Colonel Hamilton, the patron, resolved to secure the best preacher that could be had. He therefore went in person to hear such as were recommended to him, and that he might have the better opportunity for judging, he, on these occasions, travelled *incog*. Having heard that Mr Landsborough was on a certain Sabbath to preach in Mauchline he secretly re-

paired thither ; but my father, in relating the circumstance, was wont laughingly to add, “I knew two days before that he was coming ; and I had afterwards the satisfaction of learning that my principal opponent had received similar information.” Mr Landsborough was Colonel Hamilton’s choice ; and on the 26th September, 1811, he was ordained minister of Stevenston.

Stevenston parish had, at this time, a population of fully three thousand. Shortly after the appointment, Mr Landsborough met in Edinburgh Dr Fleming—afterwards author of “The History of British Animals,”—who said, “I see you have been appointed to a parish in Ayrshire. Has it any sea-coast ?” “Yes,” he replied, “five miles of it.” “O ! in that case I believe you could obtain for me some new crabs.” My father was greatly amused at his appointment being associated with crabs, yet, when relating the incident, he was wont to say, “I did afterwards get for the Doctor crabs, which, if not absolutely new, were at least very rare.”

Those who knew how evangelical Dr Landsborough was in later life, will be surprised to read the following letter from his distinguished friend, Dr Thomas Brown. The italics are in the original :—

“MY DEAR LANDSBOROUGH,—Having been out of town for a day, I did not receive your letter till this morning.

It gave me *very great pleasure indeed*. You most truly deserve success. May you have the success you deserve.

“What I have said of you in the little testimonial is less than you merit. I am a little afraid that if you come in by the interest of the *desperately moderate* men, any praise from me may do you hurt rather than benefit. If you think so, burn the paper. The *Tros Tyriusque* might do very well in old Dido’s days—but times are altered now.

“I may perhaps be able to find out some channels of influence, and if I can, you may be sure of their being used in your favour. The only difficulty is, that most of my friends are of the opposite side to Inglis and your other ghostly patrons, and would not come very readily forward, therefore, if there should be, as there is likely to be, a *party struggle*.

My sister Ellen returned a few days ago in great health and fatness. The minister, too, is with us, summoned as a witness in the Parton lawsuit. We are trying to keep him for a week or two, though he threatens to preach at Balmaclellan on Sunday. He left your friends well.

I hope you are well yourself in this struggle of hope and fear. It is more comfortable than writing lectures. Best regards, and best *wishes* on this, as on every occasion from all here.—Yours most truly,

THOS. BROWN.

40 Princes’ Street, July 28th, 1811.

In Dr Landsborough's Diary there is frequent reference to his state of mind at this period. A few instances are given :—"8th May, 1842.—How great then my darkness! and how unfit my spirit for the solemn work (that of the ministry) on which I was about to be engaged." "31st March, 1839.—I have finished lecturing on First Peter. It is very rich. I have been much benefited by Leighton. When I lectured on Peter twenty-five years ago I had Leighton; but my mind was not open then to benefit by it." "11th August, 1837.—My birth-day! What changes in the world since my life began! How many changes in my own life! Thou hast borne with me. Thou mightest have cut me off in sin; but Thou hast spared me, and Thou hast enlightened me. O how little progress have I made under all the blessings and the trials of life! and yet what cause of thankfulness that I have reason to hope I am renewed, and on the way to Heaven."

Mr Landsborough did not remain long a *moderate* minister. In 1820 he was Secretary to an Association, meeting monthly, of several of the Evangelical ministers of the Presbytery. The following were its objects and rules :—

"1st.—Prayer for the spread of the gospel at home and abroad—the prayers to be frequent, and not exceeding five minutes in length.

"2nd.—That each member shall mention the texts from

which he has addressed his people during the preceding month, and select at pleasure any one of the discourses for detail, and for the purpose of friendly criticism—the detail not to exceed ten minutes.

“3rd.—That the Meeting examine, in a critical manner, a stated portion of the Hebrew Bible and of the Greek Testament.

“4th.—That every member in turn shall suggest a passage of Scripture for critical conversation.

“5th.—That they shall make communications concerning the favourable or unfavourable state of vital religion in their respective parishes, together with the best method of promoting a revival of religion among their parishioners.

“6th.—That all conversation about secular matters be excluded ; and attention solely directed to the promotion of each other’s ministerial zeal and usefulness.

“7th.—That the Association meet at twelve ; and a family dinner, in the strict sense of the word, be provided at three o’clock.”

While seeking to promote personal piety and ministerial usefulness, neither the classic page nor the polite literature of modern times were neglected :—

“6th January, 1825.—Yesterday and to-day visited invalids. Read Greek, Hebrew, History, Alison on Taste, and 360 lines of Homer.

“1st March.—Concluded my Greek reading for the sea-



son, and I now propose during the summer to read Latin, French, and Italian. I think I shall also give ten minutes in the morning to the Hebrew Bible, and fifteen minutes in the evening to the Greek Testament. In that time I cannot do much, but it will keep me from rusting."

My father had always been conscientious in the discharge of duty, but now with heart and soul he devoted himself to it. He organized a Temperance Society to counteract the prevailing vice of drunkenness. He induced the heritors to build a new and most commodious Parish Church and school, while another school was erected for the Saltcoats district of his parish. Sabbath-schools were commenced both in Stevenston and Saltcoats; and a weekly prayer-meeting instituted. He took a warm interest in procuring a church for the many Highlanders residing in the neighbourhood. Every family was visited by him once a year, and the sick with frequency. Part of Friday, and the whole of Saturday, were devoted to preparation for Sabbath. Saturday was so thoroughly given up to this that, except in cases of necessity, the whole day was spent in the study. In his old age, however, Fido, a favourite dog, one Saturday, by much importunity succeeded in extorting a short walk, and ever afterwards claimed this as a right—his kind-hearted master remarking, "The dog is wiser than I, for my studies prosper all the better for a short interval of relaxation in the open air."

I shall here mention a few of the notables of Stevenston Parish, during the early part of Dr Landsborough's ministry.

“1. A venerable and intelligent lady, who died in 1824, in the ninety-third year of her age, and the sixty-seventh of her widowhood, was wont to tell that when she came to Stevenston Manse, as the minister's wife in 1751, there was not a carpet in the whole parish, that salmon then sold at a penny a pound of 24 oz.; and eggs at a penny a dozen.

2. The old church, without flooring; dating back to Roman Catholic times; having three lofts, two of them belonging to heritors, but the centre one to the sailors of Saltcoats harbour, which is in Stevenston Parish, and to which at that time belonged sixty vessels from 250 tons downwards; while as many as thirty-seven have been in the harbour at the same time. The customs in connection with this loft were primitive. The harbour-master kept the key. On Sabbaths the captains occupied the front seat, the mates the second, common sailors sitting in those behind. At the close of the service, the captains first marched out of the loft, the mates followed, while the occupants of the back seats brought up the rear—a practical sermon being thus preached every Sabbath on the text, “Honour to whom honour is due,” &c.

3. The tombstone of the Rev. John Bell, with the following inscription :—

## THE CHILDLESS MOTHER'S RESOLUTION.

“Strength to my tryal hath my Lord made even,  
O ! to bedew His feet that tears were given ;  
His wil's my weel, in Him my soul's content,  
Nor grieves to goe nor give what He hath lent.”

This Rev. John Bell was one of “The Persecuted Ministers.” It would seem that he was not one of those who were compelled to leave their parish ; but, when he was very ill, his son, the minister at Saltcoats, was not allowed to visit him till he had obtained a special order from the Council for doing so. He probably died in 1671. Men are not always so bad as they appear. The Privy Council of Scotland, which banished nearly four hundred ministers from their parishes and put many of them to torture and death, were most gracious in the encouragement they gave to those fishers who confined their attention to the fish of the sea, and did not in Presbyterian fashion fish for souls. Witness the following Act of Council passed in the same year in which the ministers were expelled:—“6th February, 1662.—The Lords of His Majesty's Privy Council taking into their consideration the great advantage and profit which will redound to all the lieges of this kingdom by keeping the time of Lent, and the yearly fish-days, viz., Wednesday, Friday, and Saturday, and discharging all persons to eat flesh during that time, and upon the said days, and to kill or sell in markets any sort of flesh which

are usually bought at other times ; whereby the young brood and store will be preserved, so that hereafter the hazard of scarcity and dearth may be prevented ; and the fishes, which by the mercy of God abound in the salt and fresh waters of this kingdom, may be made use of for the food and entertainment of the lieges, to the profit and encouragement of many poor families who live by fishing, the improvement of which has not been looked into the many years bygone, which hath been occasioned by the universal allowance of eating flesh, and keeping markets for it at all ordinary times without any restraint . . . . ordain and command that the time of Lent for this year, and yearly hereafter, shall begin and be kept as before the year 1640, and that the said weekly fast-days be strictly observed in all time coming . . . . under the penalties following, to be exacted with all rigour, viz., for the first fault ten pounds ; for the second, twenty pounds ; for the third, forty pounds ; and so to be multiplied according to the oft-contravening of the said Act, to be exacted and paid, the one half to the King's Majesty, the other half to the delaters," &c., &c.

How delighted must poor fishers have been with so gracious and considerate an Act, enforced by such swinging fines, one half of them going to the informer ! Well might they complain of the sad degeneracy of the Government of the present day, and exclaim, O, for a wise and patriotic

Government that would confine men to fish on Lent, and on the Wednesdays, Fridays, and Saturdays of every week !

There was a church custom in full force when Dr Landsborough was ordained at Stevenston, which is now obsolete. It was that the officiating minister in town churches, after concluding the service with the benediction, before he sat down bowed to the magistrates ; while in the country this mark of respect was paid to the principal heritor of the parish. It was brought to a close in Stevenston in the following manner. The principal heritor—John Hamilton, Esq., of Grange,—was choleric in temper, and one day he took offence at some statement Mr Landsborough had made, and manifested his displeasure by walking out of the church. There was no bow that day. Next Sabbath the representative of the heritors, with all dignity, sat in his pew prepared to acknowledge the wonted mark of homage ; but Mr Landsborough had long been tired of the custom, and thought this a good opportunity of bringing it to an end, and to Mr Hamilton's amazement the minister sat down without rendering it, and, to the old gentleman's great chagrin, the respectful token of deference was never renewed.

5. The most prominent relic of the Old Kirk now remaining is the weather-cock. When the church was taken down this was given by the heritors to Major Martin of Mayville. When he left his sweet abode he bestowed it upon

Mr Landsborough, who erected it upon one of the outhouses of the Manse. At the flitting after the Disruption, Mr Landsborough did not forget it ; and when Saltcoats Free Church was completed, the poor cock, who had fallen from his high estate and passed through many vicissitudes, was again exalted to his former dignity, where he looks as proud and self-important, as when he presided over “The Auld Kirk o’ Steynstounc.”

In 1817 Mr Landsborough married Margaret, youngest daughter of James M’Leish, Esq., Port-Glasgow. Their union was very happy ; but God saw fit to visit with trial. Mrs Landsborough had enjoyed good health ; but a few years after marriage she became very delicate. No husband could have shown more sympathy in such circumstances. Their bed-room became his study, and night and day he showed all the attention love could suggest ; but after years of alternate recovery and return of weakness, in 1834, on the morning of a Sabbath, the day on which her Saviour rose from the dead, her spirit ascended to be with Him for ever.

This was the greatest trial Mr Landsborough ever endured. He had loved her most warmly ; and she was worthy of all his affection. So deeply did he feel the loss that in some respects he was never afterwards the same. The flute, which had been his constant companion since boyhood, was laid aside, and never again resumed till the threescore and

ten years being past, the prospect of speedy reunion led him to begin again to delight himself with it. On the anniversary of her removal he never failed in the morning to remind his family of the sad event the day recalled. How touching the following extracts from his journal:—

“14th November, 1834.—Another painful day. About twelve o’clock, as some of the children wished once more to see their dear mother, I took them all up to my room, except dear little Janet, and removed the lid from the coffin, and we all took the last look of one who was still sweet and lovely in death. Before replacing the lid we all knelt down around the coffin, and gave her thankfully back to Him who had blessed us with the sweet, sweet loan, and prayed that the bereavement might be so sanctified to us all that we might all meet a happy, reunited, risen family at God’s right hand.”

“1st January, 1835.—I this day enter upon another year of my life; but, O, how changed are my circumstances! Formerly, though we had much trouble, it was always cause of thankfulness to the Lord that we were all alive. Alas! alas! this no longer is the case! The desire of my eyes has been taken away. My beloved wife is laid in the grave, and I have thus been visited with the bereavement of my dearest earthly treasure. But may not the Lord by this be intending to cause me to lay up my treasure in Heaven? Do not my thoughts more revert to Heaven, when the

Beloved of my heart is there? I think I do feel more weaned from the world; and more ready, should the message come, to say, Here am I. O Lord, may I be ready, that to me to die may be gain; and may I never forget that this chastening of the Lord is not for His pleasure but for my profit, and that my soul may be made partaker of His holiness."

In the beginning of 1840 God was graciously pleased to visit Stevenston with a season of revival and refreshing.

"30th March, 1840.—We have had revival weekly meetings since the end of 1839. At first they were in the church, and remarkably well attended; but they began to fall off during the cold evenings of winter, and I took them to the school, and new life began to appear, and the school was crowded, and the songs of praise raised with great spirit."

"22nd April.—This day Mr Findlay (Rev. T. Findlay, West Kilbride), was down. We visited upwards of a dozen families. Much pleased with them in general. They are very open, and state their case very freely. A few of them find peace and joy in believing—others not. Mrs —— is still very depressed. Her great depression appears in her countenance. She had some light for a few days, but it is gone. Mrs —— very joyful. She had been in a dead, hard state. The more she prayed, the more hard her heart became; but now from being a very shy person



from whom I could get nothing, she very freely says, 'Come and I will tell you what the Lord has done for my soul.' Mrs ——— very joyful and yet sorrowing ; joyful about herself, but sorrowing about her friends. We were not able to go through all. In the evening had a very nice prayer-meeting ; four or five hundred, I think, in church, as they sat very close. He gave them a good address, and he and I were very much pleased with the day's work."

"28th April.—This day Rev. D. Wilson, from Fullarton, came to breakfast. He and I spent the day in visiting in the village. He is remarkably well fitted for the work, and has much more readiness and acuteness than I supposed. I have reason to be ashamed that I am so much surpassed by my juniors. Well it is that it is so, as my time is short and theirs may be long. Some of the parties require prudent management. We visited about seventeen families, where we hope there is a work in more or less progress. In the evening we had a very nice meeting in the church, the lower part of which was nearly filled. Mr Bonar (Rev. A. Bonar, author of the memoir of Mr M'Cheyne) gave an excellent address on the state of the Jews, and the obligation to strive to convert them. We were fully two hours in the church, and the people seemed remarkably attentive. I was much struck with the great readiness and variety of the young man's prayer. Oh, may I be more in converse with the Lord !

“10th June—This evening the prayer meeting was in the church. They seemed very attentive, but the number was smaller than last. I fear they may be beginning to cool. O that more would take an interest in the good work !”

But times of blessing are frequently preparatory to times of trial. The Church of Scotland, to which the Lord had given a wonderful reviving, now entered upon a long and harassing conflict. It would be out of place to narrate it here. Sir Robert Peel, Prime Minister at the time, as also the most distinguished members of his Cabinet, have expressed their deep regret for the course they took in this matter. The British Legislature have last year (1874) admitted the justice of the claims of the Scottish Church ; and the General Assembly of the Established Church has virtually affirmed it. Mr Landsborough was prepared for the conflict. He never, indeed, took a prominent part in the discussions in Church Courts ; but the path of duty to him was clear, and he never hesitated. He attended the Convocation, and signed both resolutions.

“17th Nov., 1842.—Heard a nobles peece by Dr Candlish at the Convocation. A very full church.”

“18th.—Attended Convocation. In the evening much appearance of difference of sentiment. Went to my lodgings full of fears. Prayed for union and heavenly wisdom. Awoke in the morning with a sigh.”

“19th.—Went to the Convocation. Dr Chalmers began

the business. He seemed sent by the Lord in answer to prayer. The Spirit of the Lord seemed to breathe on the troubled waters. All became wonderful harmony and agreement."

"22d.—In the evening went to the meeting, and remained till nearly three o'clock in the morning. Most thankful for the result. Blessed be the Lord, the Convocation has not been in vain—350 are found steady."

"12th March, 1843.—In the afternoon my discourse was intentionally suited to the peculiar circumstances in which we were placed after the news had come that Parliament had resolved to give us no relief, and that consequently we must leave our churches and homes. Oh, may grace be given us to glorify God in the fires! May the affliction be sanctified to us, so as to wean us more from the world, and to fit us more for Heaven; and do Thou, oh God, overrule the trying dispensation for Thine own glory and for the good of Thy Church and people!"

As member of the Presbytery of Irvine, in connection with the well-known Stewarton case, Mr Landsborough occupied a prominent place, and by resisting the Court of Session, exposed himself to fine and imprisonment.

The Disruption in the Irvine Presbytery took place two months earlier than in the General Assembly. In it the party which afterwards remained in connection with the State, being in the minority, withdrew from their brethren,

and formed themselves into a separate court. Mr M'Leod, minister of Loudoun, afterwards so well known as Dr Norman M'Leod of Barony Church, Glasgow, was Moderator of the Presbytery, and he having headed the Seceders, Mr Landsborough was unanimously chosen to fill the chair.

When the memorable eighteenth of May arrived, Mr Landsborough followed Dr Welsh, the Moderator of the Assembly ; Dr Chalmers, the most renowned divine of the Scottish Church since the days of Henderson ; Dr M'Farlane, who held the richest living ; Dr M'Donald, "The Apostle of the Highlands," &c., &c., when they formed themselves into that Church to which all the missionaries of the Scottish Church to the Jewish or Gentile world united themselves ; and to which alone all the deputies from sister Churches in England, Ireland, Scotland, America, and the Continent betook themselves with their Commissions, thus emphatically declaring that all of them recognised in the Free Church the Church of Scotland.

In passing from St. Andrew's Church to Tanfield Hall, the Disruption ministers and elders, being compelled by the surrounding crowds to form into a procession, the Rev. N. Paterson, D.D. ; his brother, the Rev. Walter Paterson ; and Mr Landsborough, walked arm-in-arm. What noble heads and fine countenances the three presented ! Here were original genius ; accurate scholarship with varied accomplishments ; and fine taste with scientific learning. The three had

in boyish days wandered together by the banks of the Ken ; and now, when time had whitened their heads with the snow of age, they walked together in this memorable procession—being, by God's grace, willing to sacrifice all for the glory of that Saviour who had redeemed them by His blood.

On the Assembly Sabbath Mr Landsborough was not idle. In a beautiful parish church in Haddingtonshire two ministers might have been seen occupying, in succession, the pulpit. Both of them were venerable for their years, both were men of parts and accomplishments, and both had laboured for more than thirty years as ministers. One of them, Dr Makellar, had three years before been raised to the highest honour which the Church could bestow—the Moderatorship of her General Assembly ; and it is understood that the same honour was about to be conferred by the Free Church upon the other, when he was suddenly removed by death. Both had been steady Conservatives, and both had loved the Church most devotedly, and yet here they were in their old age, preaching for the last time in that Establishment to the service of which, under God, they had devoted their lives.

Truly it was a strange sight, and any one who could witness it without being moved, must have been peculiarly constituted ; and surely it spoke volumes of the folly and infatuation of that *Conservative* Government, under which this was possible. It was, however, of God, and those who could have prevented it were blinded.

The jotting in Mr Landsborough's journal on the day of the Disruption is very brief.

"18th May.—Attended the Commissioner's levee in the Palace. Attended the High Church, and heard an excellent sermon from Dr Welsh. With difficulty got into St Andrew's Church, where the Assembly met, and as soon as the protest was read all of us rose and left it, and were received with shouts by the assembled crowds, and walked along the streets lined on every side. Met the Disruption Assembly of the Free Church; heard a most memorable address; and remained till six o'clock. Exceeding order. Alleluiah. I shall never see the like till Heaven."

Mr Landsborough, true to the family motto—"Fear God and Fight"—had, like his ancestor, bravely done his part in a great conflict. The world says that in it the precious blood-stained banner of the Church was struck down; but voices from all lands and Churches proclaimed that never was it held more high, nor waved more proudly than on that day.

I give a few anecdotes of this period :—

Mr Landsborough had no longer his pious wife to encourage him in his Master's service, but the "Ladies of the Disruption" did their part nobly. Two old friends meet in Princes Street on an evening during the Convocation. The one is the Rev. N. Paterson, D.D., Glasgow, the other the Rev. John<sup>c</sup> Murray, North Church, Aberdeen, who after

being long in a parish where the stipend was small, had a few years before been translated to one of the richest livings in Aberdeen. Dr Paterson said to his companion—"How are you getting on?" The answer was—"Could not be better; we have not left a hoof behind;" referring to the fact that all the eleven ministers of Aberdeen were at the Convocation. They then began to compare notes, and found that each of them had seven children to provide for. Mr Murray then said—"Would you hear what my wife writes about it," and, pulling out a letter, he stood by a lamp post and read—"You know we are as poor as church mice; but stand by your principles—do honour to our Master, and our peace will be as a river."

On the Disruption day, as Mr Landsborough moved in procession towards Cannonmills, an aged minister was a little ahead of him. On a sudden the crowd broke, and a young lady sprung forward and caught the hand of the venerable servant of God, raised it up and kissed it, and then allowing it to drop fell back into the crowd, while the old man seemed so much occupied with his own thoughts as scarcely to have noticed what had been done.

Miss Wodrow, a witty grand-daughter of the historian, was still alive at Saltcoats, and had a clever saying on every occasion. Speaking of Mr Landsborough, she remarked—"They tell me Mr Landsborough says (an invention of her own) that he 'will rather lay his head upon the block than

give up his principles ; but he may weel say that, for wha's the man that wud chap it aff.' ” She spoke Scotch.

A worthy woman, on hearing that Mr Landsborough was “out o' the kirk,” remarked, “Pity me, Mr Landsborough out ! If it had been Mr —— (moderate), or sic like, I wud hae thocht naething.”

A proprietor, a keen supporter of the party that had been left behind, who was using his influence in their favour, accosted a man who was looked upon as a little weak, but was a devoted follower of Mr Landsborough—“John, you must come back to the old church. We are to get a new minister, and you know there are as good fish in the sea as ever came out of it. “Weel, weel,” John replied, “it may be sae, but they are no cotch (caught) yet.”

I mention another, as it has not been published elsewhere. When the Queen was married (1840), the General Assembly gave expression to their loyalty, by sending to London a deputation, with their congratulations. But the Scottish Church, on account of its renewed expression of independence in spiritual matters of Civil Courts, had brought upon itself the displeasure of the Government ; and to make this displeasure felt, it was intimated to the deputation that their address would not (as on former occasions) be received in public. The Rev. Dr Makellar, already mentioned, was at the head of the Deputation, and his reply, one in which he was supported by all the deputies, was “If



the address is not to be received in public it will not be presented." Efforts were made by letters and interviews to induce the deputation to depart from their resolution, but in vain, and at length the Government was constrained to yield. Might not those in power have learned from this little incident the temper of those with whom they were dealing, and should they not have known that it was only such men that could gain the respect, and retain the affection of the fearless and freedom-loving Scottish nation.

When Mr Landsborough returned from the Disruption Assembly, a deputation of his congregation was in waiting to welcome him; to thank him for standing firm; and to promise him all the encouragement and support in their power.

It was kind and thoughtful of his people thus to cheer him, for trying scenes were before him. One of two valued domestics, who had been long in his service, must be parted with. The pony and cow must be sold. The garden, which he delighted to cultivate and adorn, must be forsaken. The manse to which he had brought his young wife, where his children had been born, and where, also, the beloved partner of his joys and sorrows had breathed her last—must be left. The schools in which he had taken so much interest and over which he had zealously presided; and the church which he had been so much pleased to see erected, and of

which he had been so proud—must all be relinquished. These were felt to be great sacrifices, but Christ was honoured, and He was near, and there was peace.

There were, however, other trials. He had at times to suffer from the rudeness of the unfeeling. I give an instance: Mr Landsborough was one day seen scanning the houses in Saltcoats more carefully than usual. A well-known “gentleman” accosts—“Mr Landsborough, you seem to be looking about you more than is your wont.” “Yes,” was the reply; “I am looking for a house for myself and family.” “Oh! in that case,” said he, “I know one that will exactly suit you.” “Where is it?” asked Mr Landsborough. “Bedlam,” was the insulting answer, as the “gentleman” moved off.

How different the language, though trying in a different way, of Dr Johnston, the distinguished naturalist, himself a member of the Episcopal Church.

“I have read the discussion in the House of Commons on your kirk question, and the result pained me. You have never since been out of my mind, nor can I dis sever your name from Stevenston manse, though I fear you will be cruel enough to separate from it bodily. I will say nothing, but surely you will allow me to weep at such a stern resolve. I do pity you, and your daughter (Margaret, the eldest, who excelled in painting, whose drawings of her Father’s discoveries had frequently been sent to Dr Johnston) still more. There are sacred associations that must ever bind you

to the manse, and there the spirit must dwell, let the body be driven where duty seems to demand. Had I been an M.P., I would have been in the minority. So far as I can judge, the speech of Mr Rutherford was never answered; and the arguments of Sir J. Graham and Sir R. Peel were rather of what would be expedient were a new law to be made, than a reply to the law of the Church as established by several solemn Acts.

“I have no right to ask what may be your intention, but I feel very anxious about the comfort and support of one who has earned a title to both by his precious labours, and who has been kind enough to write to me, and adopt me among his friends. Will Miss L. come and spend the summer with us?”

Again he writes after the event had taken place:—

“Many annoyances come thick and fast upon me, but which are all mere trifles when compared with your trials, and yet you did not forget me. I cannot think of you being a seceding minister without very bitter feelings of regret.”

The Disruption period was a stern time. A determined effort was made to put down the Free Church. A church would have been built for Mr Landsborough between Stevenston and Saltcoats so as to have served both places; but a site was denied. Even a nobleman deservedly so popular as the late Earl of Eglinton (the celebrator of the

Tournament, and a Lord-Lieutenant of Ireland), refused one in Ardrossan, and when a deputation of Presbytery was appointed to wait upon him respectfully to ask him to reconsider his decision, he wrote :—

REV. D. LANDBOROUGH,

My Dear Sir,—As I leave this for London on the 26th, it will not be in my power to see the deputation of the Free Presbytery.

It is as well, however, at once to state that I cannot agree to grant a site for their church in any part of Ardrossan.  
—Your obt. Servant,

EGLINTON AND WINTON.

Eglinton Castle,

January 23rd, 1844.

The Disruption was followed by years of great activity and labour, far more stirring and laborious than those of Mr Landsborough's youth and prime. He had charge of Kilwinning, Stevenston, Saltcoats, and Ardrossan. Every Sabbath he preached three times, and on several occasions he even preached four times, and each of them in a different place. On one occasion, in addition to preaching four times on a Sabbath, he had a short service in a private house, where he baptized a child, whose father was at sea.

But if the work was great, what a pleasure was in it! All were hearty, hopeful, and enthusiastic—the spirit of faith

and love did notably abound, accompanied by an enlarged liberality, for which there was great need, as in addition to the maintenance of the ministry ; churches, manses, and schools had to be built ; but the Lord opened the hearts of men, and gave His blessing, and there was no lack.

Mr Landsborough, although near the close of his sixty-fourth year, showed a strength and endurance, freedom, and power, far exceeding that of any former period of his life. Weary he might be in his work, but never weary of it. The congregations, also, were wonderfully large, and the ears of the people were open to hear, for they had been convinced that their ministers were men, in whose hearts the glory of God occupied the highest place ; and who laboured, not for gain, but for the good of souls. They listened as—with the exception of the time of the “revival,” they had never done before, and the Lord was present to bless. Nor were cases wanting of which it might be said, “This man, and that man, was born there ;” and the Lord established them ; though, alas ! in not a few promising instances, it might be written as of old—“Your goodness is as a morning cloud, and as the early dew it goeth away.”

It is pleasing to add that not merely was Mr Landsborough marvellously strengthened for his many labours, but a blessing rested upon his ‘basket and his store.’

In the Establishment his stipend had averaged above £350, (now £444,) including manse and glebe, being higher than

more than three-fourths of the parishes in Ayrshire. The first year after the disruption it was only £105, without manse, and for several years it did not average more than £120, though still he had no manse. Previously he had derived about £100, from private means, which of late had been gradually reduced to little more than one half of this amount ; yet, while the year had seldom ended formerly without the family being previously informed that his income was already spent, now this was seldom the case.

He had always been very liberal, and for long he had made it a rule to give away £50 yearly—thus dedicating to the Lord an eighth part of his yearly income. Now he gave in the same proportion as before, though he could not give the same amount.

The following anecdote, lately told by a gentleman in Saltecoats at the annual meeting of the Free Church congregation belongs to this period—"Dr Landsborough's house (Rockvale) was let, but the tenant was a bad one, and the rent was not paid. He went to remonstrate, and by way of excuse was told a pitiable story. The good man's heart was touched, and drawing out his purse he presented the person with a sum of money—An uncommon way of collecting rents !" added the gentleman.

Thus blessed was Mr Landsborough. Often he said he had never been so happy. His countenance showed this, for it was a pleasure to behold it. This also appears from his

journal, where we find him writing on the 1st of January, 1846 :—

“The Lord has spared me to another new year. I will set up my Ebenezer and say, ‘Hitherto hath the Lord helped me.’ The Lord has given me so many blessings, and so much happiness here, that I am almost afraid at times that He has here given me my good things. And yet, Lord, though I am grateful for the happiness, I can say, ‘I would not live always.’ I would not take up with this world as my rest. May Thy goodness melt my heart !”

Many, after saying “The ministers will never come out,” instead of being ashamed when the event proved so different from their injurious statements, only added to the wrong by remarking, “Though they have come out, they did so by allowing themselves to be led by Dr Chalmers and others ;’ but they now bitterly repent the step they have taken.”

In reply to this calumny, the writer would inquire—How many of them returned ? He also adds the following extract from Mr Landsborough’s diary written on the first new year’s day after the memorable 18th of May :

“1st Jan., 1844.—God has spared me to enter upon a new year ; and how changed my circumstances since the beginning of last year ! For no event of my life am I so thankful as that the Lord gave me grace to be faithful in the day of trial, and enabled me to bear witness to the honour of the Head and King of the Church. I have cast

myself on the kind providence of God, and I can take up my Ebenezer and say, ‘hitherto has the Lord helped me.’ Oh help me still, and bless me ; and my dear family, whether at home or abroad ; and bless those who are now united to my congregation ; and bless abundantly the Free Protestant Church of our Land.”

While, however, Mr Landsborough was so happy and thankful, it is right to remember how great was the temptation he had been enabled to overcome. I speak not here of the worldly sacrifices this step entailed. I speak of other temptations felt by him to be far stronger. He had laboured in his parish most diligently, and a new church and new schools had been erected. Was he to leave these fruits of his labours ? He had cultivated his abilities, and had acquired reputation as a man of taste and accomplishment, and he rejoiced in this, as a means of increasing the influence which he might exert for Christ. Was he now to act in such a way as to lead the world to say of him—He is a fool ? He was minister of a most populous parish, where his position enabled him to exert a very great influence for good. Was he now to go into a corner and become a broken and despised vessel ?

The question, as it then appeared, was—“Should he do that which he believed to be sinful, but which many wise and pious men considered right, and thus maintain his social position ; or should he obey the dictates of conscience, and in



doing so forfeit position, and opportunities of serving and glorifying God, and of doing good to the souls of men? Expediency answered, "comply;" and doubtless not a few pious men, who would gladly have made all pecuniary sacrifices, yielded to this temptation. Mr Landsborough's answer was—"I cannot do that which I believe to be sinful."

Such was his true-hearted determination, and when he came to it might it not be said, "Well done, thou simple-minded, child-like man of God. Go in this thy strength, and thou shalt yet do great things."

When Mr Landsborough was at the University he had not viewed it as a place where a prescribed number of classes must be attended in order to the attainment of a certain position; but as an invaluable opportunity for intellectual improvement. The famous Dugald Stewart was yet lecturing, and he showed his appreciation by attending his class for two sessions. The not less celebrated Thomas Brown succeeded him; and he attended the same class for two sessions more—tickets being presented to him by the Professor as a friend. In addition to the classes imperative to a divinity student, he attended Chemistry, Anatomy, Surgery, and Botany. Thirsting after knowledge, he confined himself to the simplest and poorest diet, hoping by doing so to retain health without spending time in exercise. A threatening of dropsy was the result; compelling him to resume vigorous out-door exercise, a habit

he maintained through life. We shall now see how these studies, with the tastes and talents from which they originated, bore fruit.

Stevenston Manse is well situated. Though near to the village it is quite apart from it. It stands on rising ground forty feet above it, and more than sixty above the sea. The view is magnificent. On the right is the noble island of Arran, with little Pladda floating by its side. In front, at a distance, Ailsa

“ Like huge leviathan from ocean’s depths  
Raising with conic curvature his back.”

To the east is beheld fifty miles of coast—including Troon, Ayr, and its wild headlands—the view extending to the entrance to Lochryan.

Such a place was most congenial to Mr Landsborough, and at his settlement he had at once set himself to improve what he expected would be his home for life. The garden early engaged his attention. The soil was excellent, and being only a mile from the sea, the climate mild. He found it in a bare and wild condition, but soon garden walls were erected; and not satisfied with the height to which the heritors by Act of Parliament were compelled to build them, he spent one hundred pounds of his own money in adding to it. Forest trees were planted outside for shelter. The garden itself was furnished with trees, shrubs, and flowers, and by and by, in addition to ordinary fruit,

its produce included peaches, figs, and grapes, one of the vines having grown from the seed of a grape which had ripened in the garden without protection of any kind. Fuchsias, myrtles, passion flowers, adorned the walls, and a beautiful and rare collection of flowers the borders—among which I may mention *Cyclamen coum* as a special favourite, and quite hardy when grown at the foot of a south wall.

But Mr Landsborough's botanical taste was too wide in its range to remain content with these, and in course of time the flowers of the garden only shared his attention, with the less showy but not less attractive beauties of the open fields. Commencing with phenogamous plants (flowering ones), he was next attracted by the cryptogamic—algæ, lichens, fungi, mosses, and ferns. Among cryptogamic plants he early discovered two, new to Scotland—*Phalla caninus*, a fungus, and *Cystoseira ericoides*, an alga. The limestone and freestone quarries in the neighbourhood were next explored, and in one of the latter he was rewarded by finding a fossil believed to be new, which was named *Lyginodenron Landsburgii*, or *Noah's creel*, as he facetiously translated it. The sea-shore early furnished him with a shell also thought new, and therefore named *Pecten Landsburgii*; but afterwards ascertained to have been previously described by a Continental Naturalist under the name *Pecten striatus*. Insects, fishes, birds, sponges, &c., were also studied.

In all these pursuits Mr Landsborough had a like-minded associate in Major Martin, the finest example of a military officer the writer ever saw.

Mr Landsborough always had a great love for painting ; but teaching, music, and professional studies had so occupied his time that he had found it impossible to cultivate this taste. In middle life he began systematically to devote some time to it ; but ere he could attain much proficiency, the wild, beautiful, and romantic scenery of Arran struck a chord which led him to attempt verse. Having shewn his production to several friends, they advised its publication ; and in 1828, "Arran," a Poem in six cantos, was issued by Messrs Blackwood, Edinburgh. It was well received, and has long been out of print. As many extracts are given in the course of this work, I add here only a short quotation, selecting one of those given as a specimen in "The Contemporaries of Burns, and the more recent Poets of Ayrshire." It is the description of a Sabbath morning at Lamlash :—

“ With cheerful light shone forth the smiling sun,  
When came the Sabbath morn of holy rest.  
All nature rested on that blessed morn ;  
Not with the listlessness of torpid sloth,  
But beaming peace, as if that morn restored  
Part of the joy which brightened Nature's face  
When the Creator cast upon his works  
A look benignant, and pronounced them good :—  
Rested the sea ; yet did the sea proclaim  
Her tranquil bless, as she returned the smile,  
Diffused on her from Heaven's propitious eye :—

Rested the winds ; and yet the zephyrs bland  
 Whispered their happiness in accents sweet,  
 Or held soft converse with the listening waves  
 Which played in gentlest ripplings on the shore :—  
 Rested the fleecy clouds on mountain tops ;  
 And yet the clouds prepared to fade away,  
 And leave in spotless purity the sky :—  
 Rested the village neat ; and all around  
 The humble house of God was calm repose,  
 The sweet tranquillity of Sabbath morn.”

Mr Landsborough's next publication consisted of a number of religious Biographical Notices, which, under the title of “Ayrshire Sketches,” had a considerable circulation. But it was as a Naturalist that Dr Landsborough was to excel.

About this time he commenced a daily register of the temperature ; the direction of the wind ; and the state of the weather. He also kept a record of the date when his favourite flowers came into bloom ; when pease and potatoes were ripe ; asparagus fit for being cut ; and when he first saw or heard the various birds of passage. I give a specimen of the result of these notes :—

*Hepatica*.—Earliest time of flowering, 5th November ; latest, 1st February—average of six years, 16th December.

*Snowdrop*.—Earliest, 9th January ; latest, 31st January—average of nine years, 18th January.

*Cyclamen Coum*.—Earliest, 15th December ; latest, 27th February—average of six years, 14th January.

*Scilla Siberica*.—Earliest, 5th December ; latest, 11th February—average of nine years, 18th January.

*Crocus*.—Earliest, 21st January ; latest, 26th February—average of sixteen years, 7th February.

*Dwarf Daffodil*.—Earliest, 21st February ; latest, 23rd March.

*Common Daffodil*.—Earliest, 1st March ; latest, 30th March—average of five years, 16th March.

*Monthly Rose*.—Earliest, 3rd May ; latest, 24th May—average of seven years, 17th May.

*Hawthorn*.—Earliest, 14th May ; latest, 25th May—average of five years, 21st May.

*Gum Cistus*.—Earliest, 14th June ; latest, 13th July—average of thirteen years, 29th June.

*Early Pease*.—Earliest blossom, 25th April ; latest, 10th May—average of eight years, 1st May.

*Earliest Dish of Peas*, without forcing or transplanting, 4th June ; latest, 24th June—average of ten years, 14th June.

*Asparagus*.—Earliest dish, 13th April ; latest, 13th May—average of eleven years, 27th April.

*Mavis* or *Thrush* heard in full pipe, 13th December, 1828 ; 15th December, 1833 ; 20th January, 1834.

*Swallows seen*.—Earliest, 20th April ; latest, 12th May—average of eight years, 3rd May.

*Cuckoo heard*.—Earliest, 20th April ; latest, 6th May—average of ten years, 30th April.

These, and similar observations, had so thoroughly prepared Mr Landsborough for writing the article "Stevenston Parish" in "The New Statistical Account," that it was universally admitted to be one of the best in that great national work. He was also able to furnish so many Natural History notes for the articles of neighbour ministers that he came, at once, to be known as "The Ayrshire Naturalist." It also had the effect of adding to his scientific acquaintances. Dr Johnstone of Berwick, for instance, at the time engaged with his celebrated work on British Zoophytes, wrote asking further information regarding the Zoophytes of the West Coast, and thus commenced a correspondence and a friendship most warm and intimate, and continuing unbroken till Mr Landsborough's death.

The "Statistical Account of Stevenston" was published in 1837. In the year 1843 he was associated with the Rev. Dr Cook, Belfast; the Rev. R. M. M'Cheyne, Dundee, and a number of distinguished ministers, in writing "*The Christian's Daily Companion*," consisting of morning and evening meditations for a year. *The Free Church Pulpit* also contains a sermon by him. It is excellent and characteristic; yet it is not the one I could have wished. His second son who had gone to Australia, was one evening there conversing with another gentleman about sermons, and remarked, "The sermon that most impressed me was one by my Father. The other gentleman asked the text and then added, "It is

strange I can say the same—I heard your Father preach it in Greenock.” I mentioned this circumstance to the late Rev. Robert Lindsay, Tarbolton, who said, “I also can say it—I heard your Father preach it on the Sabbath after my only sister died—The text was, “There shall be no night there?” Like all my Father’s sermons it is written in short hand and so cramped as to be illegible. His journal would have been the same but for the circumstance that the book in which it was written was widely ruled. About this time he began to contribute papers to various scientific periodicals. I copy a list of those published before 1843, from the *Biographia Zoologiæ et Geologiæ* by Professor Louis Agassiz :—

1. On the Phosphorescence of Zoophytes—Ann. & Mag. N. H. viii. p. 257.—Ed. N. Phil. J. xxxii. p. 169.

2. Rissoa Harveyi.—Ann. & Mag., N. H. ix., p. 261.

3. On Mollusks, &c., observed at Whiting Bay, in the Island of Arran, in August, 1842.—Zoologist, p. 86. On the discovery of bones, near Saltcoats, Ayrshire, p. 686.

4. On the history and habits of the Rook (*Corvus frugigellus*, Linn).—Ann. & Mag., N. H. xi, p. 275.

5. Account of a dredging excursion.—Ann. & Mag., N. H. xv., p. 151.

6. Notices of some varieties found in the West Coast of Scotland.—Ann. & Mag., N. H. xv., p. 327.

7. Description of a Newer Pleiocene deposit at Stevenston



and of Post-Tertiary deposits at Stevenston and Largs, in the County of Ayr.—Proc. Geol. Soc. Lon. III., p. 444—Ann. & Mag., N. H. viii., p. 514.

The last paper enumerated was “mentioned with much praise, at the Meeting of Swiss Naturalists at Geneva in 1845 ;” and with special reference to it Professor Edward Forbes, in his *Dissertation on the Geological Relations of the Fauna and Flora of the British Isles*, writes :—“The observations of the Rev. Mr Landsborough on the Pleistocene beds in the West of Scotland are very valuable from their minute accuracy, a quality without which no natural history statements in this subject can be received as of any authority.” It may be added that an abstract of it was given in “*Histoire des Progres de la Geologie par M. D’Archaic*,” tome II., p. 96.

Mr Landsborough had now entered upon branches of Natural History at that time little known, and had in consequence to encounter the difficulties which attend explorers. Wishing to obtain the names of some of his Post-Tertiary and Newer Pleiocene shells, he had sent them to the Edinburgh and also to the British Museum ; but in vain. A lady correspondent, at Cambridge, wrote that if he sent them to her she would get them named by her learned friends in the University. They were sent, but Cambridge proved no wiser than London or Edinburgh. Mr Landsborough next forwarded them to William Thompson, Esq., Author of “The

Natural History of Ireland," from whom he received the following reply—"I was much amused at the account you gave of your difficulties. No wonder you were unfortunate in getting the shells named, as only one or two men in the United Kingdom know anything critically on the subject. What a capital idea to send them to Cambridge! Yet should not such a place be the seat of all learning?"

The Disruption period brought with it so many professional engagements that there was almost no time for scientific pursuits. In illustration of this I may mention, that though Arran was now so accessible and Mr Landsborough's love of it so great, yet in 1845 he had not been in it for three years except on one occasion, for a day, and on another for an hour. He also writes to his distinguished scientific friend, Mr Thomson, Belfast—"Had all things been going as formerly I might by this time have sent another article to 'The Annals,' perhaps on the Mavis; but really were I to be writing about singing birds at present, I might lay myself open to the rebuke given by the boy in the Greek fable to the oysters fizzing in the fire—"O cursed creatures, are you singing when your house is burning over your heads." "Very busy," he writes to the same friend who was also ever busy: "Time! Time! I sympathise with you in the wish that hours were years.—We shall have our wish, by and by, when time is no longer measured by hours and days; may we be prepared for the enjoyment of that endless period!" "Whether shall you

or I die first?" said my first-born to me when he was under five years of age. "I think I shall die first," I replied. With starting tears, he said, "I wish we would die at the very same time." "Well," said I to comfort him, "It is *possible* we may die at the same time." Catching at the hope, he said—"What shall we do with the gooseberries and strawberries?" "O," added he, "we'll leave them to James there," who was tumbling on the hearth, "he's most taken up with these things," and then with increasing delight he said—"Papa—when we get our wings we'll catch birds." Were the love of birds the only essential requisite he and I would have been quite ready, but lest there should be no birds to catch, it will be as well to think of some surer qualification. I have perhaps been led to write in this manner by hearing of the sudden death of Mr Hall in Essex, a fine young man and zealous conchologist, with whom I had frequent correspondence. He was found dead in bed.'"

Nothing, however, could overcome Mr Landsborough's love of nature. Conscious of this he writes again excusingly—"In the present state of the Church to which I belong, I am almost ashamed to write about birds, and beasts, and creeping things. But I write to one who has a fellow-feeling and who knows how difficult it is to subdue the love of nature. The grim face of death itself cannot do it. When the devoted Carey, who had done so much for the natives of India, was on his death-bed, he caused a beautiful plant to be

brought and placed near his bed, that he might, once more, have the pleasure of contemplating it, while the 'King of Terrors,' (disarmed of his sting) stood by with uplifted scythe."

Mr Landsborough in reality, did not give up the study of Natural History. "Where there's a will, there's a way!" At the Disruption, there were churches, manses, and schools to be built, and much money was required. He had gone to live within little more than a couple of stone-casts from the beach. He had left his much-loved garden. The sea-shore took its place. Algæ were there in abundance, and it occurred to him that they might be laid out on paper, and sold for Free Church objects. The thought was speedily carried out, and ere long "Ayrshire Albums" of preserved sea-weeds became known far and wide, and in course of time the sum realized amounted to £200.

In 1845, Mr Landsborough was asked by the publisher of *The Christian Treasury*, a religious periodical, with a very wide circulation, to contribute some papers on Natural Science. These at once arrested attention. The publisher wrote, "They are extremely popular. The other day Mr Hugh Miller (Editor of the *Witness* newspaper), expressed himself to me regarding your papers in terms of high admiration." The result was that he was urged for additional papers, and at length the publisher proposed to re-issue them in a separate form. This was the origin of Mr Landsborough's "*Excursions to Arran*." The work was written,

amid the bustle and distractions of what, with the exception of the two previous, were the busiest years of his ministry. It has, to use his own language, "some unpleasant repetitions," which arose from want of time, and from his never having more than one chapter in his possession at the same time ; yet it contains passages in which clearness, liveliness, and elegance are so admirably united to scientific fidelity of representation, as to lead to their having been quoted through a wide range of literature. Their accuracy procured for them the approval of the scientific ; their simplicity, naturalness, and beauty ; and the playful, joyous, and devout atmosphere, which, breathing himself he infused into all his writings, won the admiration of the gifted and pious.

Mr Landsborough's descriptive power was now acknowledged. Thus Dr Johnston writes :—" I do think you have got a prize. It surely must be a young *Cristabella* ; and I have got a prize, too, for you will send me a description of the creature, and of its habits, written in your usual manner ; and your daughter will prepare a figure for me—both to ornament a page or two of my volume."

About this time Messrs Reeve, Benham, & Reeve, London, were issuing a series of half-guinea works, on Natural History. They applied to Professor Harvey, Trinity College, Dublin, to furnish that on Algæ (Seaweeds) ; but he was too fully occupied at the time with his great work, *Phycologia Britannica*, to comply. He recommended Mr Landsborough,

who consented ; and so highly were the publishers pleased with the work, that they asked him to undertake the corresponding volumes on Zoophytes and Mosses. He undertook the former, and accomplished it in a way equally satisfactory.

Mr Landsborough had now become one of the known Naturalists of Britain. That he was not unduly elated, appears from the following extract, from a letter he wrote to the author of "The Natural History of Ireland." "I got a good laugh this afternoon at an anecdote about White of Selborne. A gentleman dined with me, who a few weeks ago had been in White's parish, where he met an old man who had known him, and had been married by him. Wishing to learn what was thought of Mr White where he had lived, he said to the old man : 'What kind of a person was Mr White ?' 'Oh !' said he, 'he was a *woonderful* man for *waups* and *wooms* (a wonderful man for wasps and worms), many a penny he gave me and other boys for gathering *waups* and *wooms*. He was a *woonderful* man.' Dr Landsborough then adds : 'Long after you are gone some chronicler will be pouring forth his reminiscences of yourself in similar strains of *woonder*. How sublime !' "

In 1850, Mr Landsborough originated "The Ayrshire Naturalists' Club." He himself was its life and spring. No meeting was arranged without ascertaining if he could be present, and as long as he lived the Club flourished.

I insert a list of the discoveries made by him and his family. It will be seen that he added nearly seventy objects to the known flora and fauna of his native land.

## FISHES.

|   |                               |
|---|-------------------------------|
| Leptocephalus Morisii, new to Scot-     | Lepadogaster bimaculatus, new |
| land,                                   | to Scotland.                  |
| Amphioxus lanceolatus, new to Scotland. |                               |

## MARINE ANIMALS.

|                                   |                             |
|-----------------------------------|-----------------------------|
| Bolina Hibernica, new to Britain. | Cucumaria Hyndmanii, new to |
| Beroe Cucumis, new to Scotland.   | Scotland.                   |

N.B.—Mr Alder and Dr Landsborough were together when the Bolina was taken—I cannot say which of them was the discoverer. Beroe Cucumis was found about the same time by Dr Landsborough and Professor E. Forbes.

## MOLUSKS.

|                                     |                                 |
|-------------------------------------|---------------------------------|
| Pecten striatus, new to the British | Eolis viridis, new to Scotland. |
| Islands.                            | Eolis picta, „                  |
| Odostomia excavata, new to Scot-    | Hermæa bifida, „                |
| land.                               | Eumenis marmorata, „            |
| Odostomia Cylindrica, „             | Polycera ocellata, „            |
| Eolis Landsburgii new.              | Polycera quadrilineata, „       |
| Eolis lineata, new                  | Goneodoris castanea, „          |
| Eolis concinna, new to Scotland.    | Ancula cristata, „              |
|                                     | Actæon viridis, „               |

N.B.—Eolis lineata was found about the same time in Sweden and Scotland.

## ZOOPHYTES.

|                       |      |                                    |
|-----------------------|------|------------------------------------|
| Lepralia Landsburgii, | new. | Hippothoa divaricata, new to Scot- |
| Aleo major,           | „    | land.                              |
| Anguinaria truncata,  | „    | Anguinaria spathulata, „           |

|                                     |                         |   |
|-------------------------------------|-------------------------|---|
| Lucernaria cyathiformis, new.       | Eucrateria chelata,     | „ |
| Lepralia Hassallii, new to Britain. | Tubulipora flabellaris, | „ |
| Lepralia annulata,                  | Sertularia margarita,   | „ |
| Lepralia biforis, new to Scotland.  | Actinia bellis,         | „ |
| Lepralia granifera.                 | Anthea cereus,          | „ |

N.B.—*Lucernaria cyathiformis* was found about the same time in Norway.

#### FUNGI.

*Phallus caninus*, new to Scotland.

#### LICHENS.

*Verrucaria maura*, new to Scotland.

#### ALGÆ.

|   |     |   |   |
|---|-----|---|---|
| Oscillatoria mucosa,                          | new | Dundresnaia coccinea, new to            |   |
| Oscillatoria thermalis,                       | „   | Scotland.                               |   |
| Ectocarpus Landsburgii,                       | „   | Peyssonelia Dubyi,                      | „ |
| Striaria fragilis, new to the British         |     | Ectocarpus brachiatus,                  | „ |
| Islands,                                      |     | Callithamnion roseum,                   | „ |
| Laminaria longicurris, new to Britain.        |     | Ceramium echionotum,                    | „ |
| Cystoserira ericoides, new to Scotland.       |     | Ceramium nodosum ( <i>C. tenuis-</i>    |   |
| Ectocarpus Mertensii,                         | „   | <i>simum</i> ),                         | „ |
| Scirospora Griffithsiana,                     | „   | Delesseria ruscifolia,                  | „ |
| Wrangelia multifida,                          | „   | Chylocladia parvula ( <i>Lomentaria</i> |   |
| Naccaria Wiggii,                              | „   | <i>parvula</i> ),                       | „ |
| Gloiosiphonia capillaris,                     | „   | Corallina squamata,                     | „ |
| Laurencia tenuissima ( <i>Chondriopsis</i>    |     | Cladophora Hutchinsiae,                 | „ |
| <i>tenuissima</i> ), new to Scotland.         |     | Cladophora refracta,                    | „ |
| Padinella parvula ( <i>Zonaria Parrula</i> ), |     | Draparnaldia nana,                      | „ |
| new to Scotland.                              |     | Batrachospermum atrum,                  | „ |

Though not discovered by Dr Landsborough I may add—*Landsburgia quercifolia* from New Zealand, a genus named after Dr Landsborough by Professor Harvey of Dublin.



## DIATOMACEÆ.

*Bacillaria paradoxa*, new to the British Islands.      *Meloseira orichalcea*, new to Scotland.

*Tabellaria fenestrata*, new to Scotland.

In recognition of these discoveries Mr Landsborough was elected an Associate of "The Linnæan Society," London; a Member of "The Royal Physical," and "The Wernerian" Societies, Edinburgh; and of "The Philosophical," and "Natural History" Societies, Glasgow. The degree of D.D. was also sent him from America. Dr Landsborough was able to make so many discoveries by having, what Dr Johnstone, in speaking of him, called "a specific eye"—that is, on seeing an object he was able to tell whether it differed in any respects from what he had seen before, and if it did so, whether this lay in a mere variation, or in a specific difference. He also most carefully improved his time. Regarding this last, we find him, when he was in his seventy-third year, writing in his preface to *The History of British Zoophytes*:—"Though inferior to the bee in skill, I have not, during the progress of this work, been inferior to her in industry. Having the prospect of being from home for a few months, I wished it to be in the hands of the printer before the end of March, and therefore during the winter, while I was all day, and every day, occupied with my professional duties: in the dark morning hours, and in the darker hours of night, when, even in summer,

the bee would have been sound asleep, I was 'aye write—writing,' so that, by dint of perseverance in working double tides, ere March was over, my labours had come to an end." I may add that on one occasion a servant who had been long in the family, on leaving the study, remarked:—"I have seen what I never saw before, I saw the minister daeing *fient a hait*." (Absolutely nothing.)

It is only due to him to mention that distinguished as he was as a Naturalist, he is best remembered in the scene of his labours as a most diligent and affectionate pastor; and as a man very remarkable for the great amiability of his disposition. A witty member of his Presbytery, in a satirical poem in which he sketched his clerical fellow-members, cleverly *hit off* the Doctor in the single line—"so meek, so mild, and so mute." Dr Landsborough, like "the man Moses," was "very meek;" yet no one could take liberties with him. He was very mild, yet so firm that his sons, so fond of mischief that their ears were often saluted by the exclamation of the worthy wives of the village—"they Minister's weans are the warst weans in the hale toun," could ever be controlled by him with a look. He was mute, amusingly so, for one of his abilities and attainments, yet he was excellent company—his contribution to the conversation consisting mainly in occasional happy remarks and illustrative anecdotes very well told.

The notice of Dr Landsborough in *The Biographical*

*Dictionary of Eminent Scotsmen* is both true and happy, and brings out the same features of character. I give the following extract :—

“What Gilbert White was to his parish of Selborne, Dr Landsborough was to Stevenston, and the sea-coast of Ardrossan and Saltcoats. In the intervals of professional duty, he studied their history in all its departments ; showing an equal aptitude for all. The plants (flowering and cryptogamic), the shells (land and marine), fossil botany, and algology, successfully passed under his review. But it was more especially to the algæ of the Ayrshire and Arran coasts that he devoted his attention during the latter years of his life, and the pages of Dr Harvey’s *Phycologia Britannica* bear ample testimony to the industry and success with which he prosecuted his researches upon these productive shores. Dr Harvey acknowledged his contributions by naming an alga after him ; Dr Johnston in like manner gave his name to a zoophyte ; and a shell is similarly distinguished. An allusion to the last in one of his books illustrates the meekness and piety which blended harmoniously with his scientific enthusiasm :—“When a friend had given the specific name of *Landsburgü* to a shell, I said jestingly to the gentleman who told me of it, ‘Is it possible to sail far down the stream of time in a scallop ?’ ‘Yes,’ was the reply, ‘the name that is written on nature will be had in remembrance when sceptres are broken, and thrones

overturned, and dynasties have passed away.' 'The humble name in question,' he adds, 'is so faintly inscribed that the rough wave of time will soon totally efface ; but there is a higher and more permanent honour, that we should supremely court—that our names be written in the Book of Life ; then, when the sun, and the moon, and the stars are darkened, we shall shine with the brightness of the firmament for ever and ever." Dr Landsborough's first published work was a poem on "Arran ;" but he was more successful in his subsequent volume of "Excursions," in which he describes its natural history in a very pleasing manner. He was also the author of a "Popular History of British Seaweeds," and a "Popular History of British Zoophytes," both successful works. A little volume of religious biography, entitled, "Ayrshire Sketches," was his only publication more immediately connected with his profession. He maintained an extensive correspondence with naturalists in all parts of the kingdom, by whom he was esteemed for his varied attainments. His theological acquirements and pastoral fidelity won for him the warm attachment of his flock ; and the respect and veneration of the adherents of all religious denominations. His disposition was gentle and amiable in a remarkable degree, and those who enjoyed his friendship loved him with filial affection."

The last years of Dr Landsborough's life were exceedingly happy. He was very fond of travelling ; but in his earlier

days this taste was not easily gratified. He used to tell of one occasion when, in company with a learned Prussian, he was as far north as Stirling, when the approach of the end of the week rendered it necessary for him to return, though the Prussian, pointing to the grand scenery beyond, eloquently protested—"Would you be at the gates of Paradise, and not enter!" Dr Landsborough did afterwards enter, and visited most of Scotland, and a considerable portion of Ireland; but he had never planted foot in England, or the countries beyond. Happening, in conversation with some friends, to mention this, a short time after, to his great surprise, he received a purse well filled with sovereigns, accompanied with the request that he would expend them on a trip. He visited England and France, and was delighted with what he saw; and with the kindness everywhere received.

But this trip seemed only to act as a whet. The Free Church has a station at Gibraltar, which was at this date without a settled pastor. Dr Landsborough indicated his willingness to supply it for four months, and was accordingly appointed; though Dr Candlish, when he heard of it, in ignorance of the originator of the idea, with characteristic energy exclaimed, "The man who proposed to send Dr Landsborough to Gibraltar deserves to be hung!"

There was some reason for the Doctor's vehemence, for Dr Landsborough was now verging on his seventy-fourth year,

and he was to be on "The Rock"—called by sailors "The Devil's frying-pan"—during the hottest part of the year. He was accompanied by his two unmarried daughters ; and was afterwards joined by a sister-in-law, and the writer. They had a favourable voyage, and at length reached that wonderful rock so famous of old, under the name of Calpe, as one of the pillars of Hercules, and on which now for a hundred and seventy years the British flag has waved, guarding the entrance of the Mediterranean. Here Dr Landsborough had a large amount of work, for besides being minister to the Presbyterian congregation he was chaplain to the 26th Regiment—the Cameronian. In addition to two services on Sabbath, he conducted a prayer-meeting and two adult classes during the week, while he also visited the Hospital and held a service for those who were convalescent. He went also once or twice in the week to the Convict Station. The fatigue of these duties was increased by the intense heat, which the reflection of the rays of the sun by the bare and barren rocks renders almost tropical.

Dr Landsborough discharged all the duties most efficiently, yet he found time for pursuing his natural studies. At six o'clock every morning he was to be seen at the market examining the fish, fruit, shells, &c. ; or, it may be, on the sea-shore gathering the products of the ocean ; or he might be found

enjoying the magnificent views presented by the various parts of the Rock ; or climbing its side gathering plants or shells, studying birds, or watching the monkeys which have made their home there, attracted by the heat, by the numerous caves in its lime-stone formation, and by the supply of food provided by the fan-palms, which in many places clothe its sides. He also made occasional excursions to places of interest in the neighbourhood, such as the Cork Wood, and the Spanish towns of Campo, St. Roque, Carbonero, Algeciras, and the ruins of Carteia—supposed to be the Tarshish of antiquity. In the neighbourhood of the last, in meet harmony with the place, he saw grain threshed as of old, by oxen being driven over it, dragging after them a car, upon which the driver sat, the bottom of which was lined with prongs for stripping off the grain.

At one of his visits to Algeciras an amusing incident took place. After viewing the town, with its bull-ring and beautiful Alameda (avenue of trees), he visited with his party the Roman Catholic Church. As they were leaving, one of them happened to look into the holy water. The priests had not calculated upon it being inspected by the sharp eye of a naturalist, and horrible to relate, it contained a number of small red worms. The prying heretic smiled, whereupon the others came and viewed with the same result. A priest, observing what was going on, came up, and casting an indignation look at the party, gave,

with his hand, the holy water a stir, whereupon the worms disappeared. Here, doubtless, was a miracle ; but the caviling Protestants profanely remarked that it was greatly helped by the sediment at the bottom of the vessel !

The grand excursion, however, was to Africa.

“12th Oct., 1852. Sailed for Tangiers at a quarter-past four, p.m., with Mr Smith and Mr Anderson, in Mr Matios' vessel. We had very little wind, and made slow progress. Went to bed in the cabin. I slept well in the early part of the night, and after that lay awake, and thought that we were getting on, and was much surprised to hear Mr Matios say in the morning we were near to Tarifa. We had a very fine view of Tarifa, and afterwards of Balonia and Cape Trafalgar, and we saw also where the battle of Barrosa was fought, and had a view of Cadiz. The scenery all around was magnificent, and the sea was very smooth, except where the tides met. We saw a shark, and also what were thought to be two argonauts. We had a very fine view of Cape Spartel ; but we made little progress, and did not reach Tangiers till after mid-day. The appearance of the town is very fine, very white, and the houses flat roofed. The scene at landing wonderful. We reached Miss Duncan's (Hotel), and sallied out to see the castle, which is a miniature of the Alhambra—very good. Afterwards we visited the prison, and the garden of the Consul, and the market place, where the people from the



country were hurrying in with camels, horses, and donkeys for to-morrow's market—quite a spectacle. Then we came to the town and saw a procession of a gunt or sheriff, with about 50 men dancing in a most furious and wild manner to stringed instruments of music, and they were also singing. The most wonderful thing I ever saw. Lord have mercy on them! Heard the Muezzin, and saw the people at their prayers. Visited a school, where the children were all sitting crosslegged on the floor. The women in the street veiled; the Jewesses not. At dinner had wine of Lebanon, and *cuscusson*, a fattening dish given to young ladies in this part of the world, where *embonpoint* is regarded as one of the essentials of beauty. I shall never forget this day, and I would have regretted much if I had left Gibraltar without seeing Africa in reality."

"13th. Rose at six, and attended by a Hadji, had a very beautiful walk on the shore, and found some rare sea weeds, and a good many shells, though neither so rare, nor so abundant as I would have expected. After breakfast, we went to the market, which was very full and extraordinary—150 camels, and also many asses, horses, and mules;—a curious mixed multitude of Bedouins, Moors, Jews, etc. Saw the town Caravansera—something like a bull-ring. After dinner, went to the Jews; saw their fine houses and the rich dresses of their wives. One dress cost £800. Got sweetmeats and orange flower water. Afterwards had a fine

walk, and found a pretty Scilla. Sailed from the harbour about half-past five p.m., but before saw a story-teller with his congregation. He was very animated in voice and manner. He had a hand instrument to arouse their attention. It had two strings, and was shaped more like a harp than a fiddle. I doubt not that he was very eloquent. They were all seated on the ground, covered with their haiks. Mr Smith gave him some money. What a scene when we reached the shore!—a crowd contending who would carry us to the boat, which, from the quay having been destroyed, must be reached by wading. We were like to be torn to pieces. At last two carried me off, and placed me safely in the boat, and the others were brought aboard in the same way. We waited long before the boat (one used for conveying bullocks to be sold at Gibraltar for the use of the garrison), sailed. As there was no wind, they cast anchor in the bay. We heard the Muezzin call from the towers of a mosque near at hand. The cabin was very small, but we went down for our repast, which was a scene. We had bread, coffee, and sugar; but there was no coffee pot or cups, only a tin jug, in which our coffee was boiled, and we supped out of it time about. We had a good duck, but only a pocket knife, yet we contrived to dissect it, and eat most of it. I went on deck and laid myself down, covered with my cloak. I was not cold till an east wind arose, and I felt rather so. I could not sleep, and it was as well, as I might have

caught cold. In the morning we had some coffee in the same manner, and a little bread. We had also a little wine. We got well on, and thought that we would be home for breakfast ; but then the wind lulled, and we did not get ashore till past five p.m., for we had to wait nearly an hour for the officer to inspect the Bill of Health. He came and took it with tongs. Found all well at home, and heard that our dear friends were to sail from Liverpool that day."

Such are Dr Landsborough's notes of this trip. Who in reading them would think that he was at this time in his seventy-fourth year !

Dr Landsborough and his party left Gibraltar by steamer on the 9th of November. Instead of returning as they had come they sailed up the Mediterranean. They passed Ivica, Majorca, Minorca, and the Gulf of Lyons, and, though it was now winter, the weather was so warm and beautiful "that on deck we were basking in the sun before breakfast." The vessel touched at Marseilles, where a day was most pleasantly spent. Here we beheld something new. We were accustomed at Gibraltar to see the people cracking and eating snails, as if they were nuts. Here we saw a similar performance at another kind of delicacy. On the quay there was a stall covered with the *common* crab—not the one we regard as eatable. Dr Landsborough, pointing to them, said to the crab-monger, 'Pourquoi' (what is the use of these)—'Pour le manger' (for eating) was the reply. Dr

Landsborough then said, 'Mangez vous celles-ci?' (do you eat these). 'Oui,' replied a little rugged boy who had been listening to the conversation, and, seeing an opportunity of gratifying himself at the expense of the strangers, he in the most obliging way in the world, illustrated his statement by taking up one crab after another, and having torn off its shelly back, gobbled up the living animal with as much apparent gusto, as a gourmand at home would a first-rate oyster.

The travellers were next conveyed to Genoa—the sail from Nice to this place, being the finest in the Mediterranean, and seen by them to perfection. At Genoa the weather changed, and the steamer was delayed, which, as time and cash were both running short (Dr Landsborough's travelling expenses being only paid for himself, and these estimated as if he had returned by the cheapest route), led our party to alter their plans. Instead, therefore, of going on to Leghorn and Florence, as they had intended, and possibly to Rome, they, after spending two days in "Genoa la superba," and seeing its fine churches and palaces, took the diligence for Turin—getting the rail at Arquata. A night and day they remained at the capital of Sardinia, a magnificent city; and again they entered the diligence, crossed the Alps, passed through Chambery and Lyons, and reached Paris, where a few days were spent, and from it, by Havre and Southampton, reached London in time to see the return of the funeral procession of the "Iron

Duke." Next day they reached home by rail, where Dr Landsborough, after an absence of five months and a half, was received with the utmost joy by his congregation—some of whom had feared they would never see him again. But here he was looking darker, yet stronger and healthier than when he left, but not less inclined on that account to enjoy the abundant supply of coals which his worthy elder, Mr Fullerton, had provided, saying "The minister will need them on coming back to cauld Scotland."

Several years after the Disruption, a manse was built for Dr Landsborough. Contrary to his advice, the site chosen was in a street. The back part of the house, in which was the drawing room, looked toward the sea ; and, as at that time there were no intervening houses, it commanded a magnificent sea-view, terminated by the mountains of Arran. Here he delighted to seat himself at sunset, and give himself up for a little to the enjoyment of its grandeur. When the debt on the manse had been reduced to £70—a far more serious sum then than now—Dr Landsborough proposed a bazaar. The members of the congregation were doubtful of its success, but consented, as the suggestion was his. Soon it became evident that it would not be a failure, for Dr Landsborough's numerous friends gladly availed themselves of the opportunity of testifying their respect for him by sending their contributions. The ladies of the congregation also greatly exerted themselves. When the day came—in

the kind providence of God a very beautiful one—visitors arrived in almost alarming numbers from all quarters, and of all denominations—Established, United Presbyterian, and Free Church, seeming to vie with each other in testifying their regard by their presence, and in helping by their purchases to free from debt the manse of one whom they so highly loved and revered.

Dr Landsborough's fine countenance beamed with delight—never had we seen it so radiant; and his friends all sympathized with him in his joy and thankfulness, when, at the close of the day, it was announced that the amount realized, not merely reached the sum of £70, but was more than £130 above it, in all above £200; being thus almost three times greater than the debt, to remove which the bazaar had been undertaken.

Of course use was found for the surplus. Among other things the manse was papered and painted, and a nice little addition—partly porch and partly greenhouse—was added. This was speedily filled with beautiful plants, without a single one being purchased; Mrs Fairlie of Coodham, Mrs Blair of Blair, and the Misses Brown of Lanfine, &c., kindly bestowing them.

Dr Landsborough was now an old man; but his eye was not dim, and his natural force little abated. If not so well fitted for the world's warfare, he was as much as ever for all the duties of his sacred office. He had always been a

man of peace. Even during the Disruption controversy he had never uttered a harsh or uncharitable expression ; and when it was over, though separated in some respects from those of his former clerical associates who had remained in connection with the Establishment, yet when they did meet it was on the same footing as they had always done. He and his old friend, the Rev. Mr Story, of Roseneath, continued to visit each other as formerly. For the Rev. Dr Campbell, whose parish adjoined his own, he ever cherished the warmest regard ; and it was pleasant to see that though Dr Landsborough had been the principal instrument of planting a Free Church congregation in Dr Campbell's parish, the feelings of the latter toward him remained unchanged.

Dr Landsborough also respected the gentlemanly conduct of the Rev. Mr Cruickshank, his successor in the Parish Church. When Dr Landsborough left Stevenston Manse he did not intend ever to enter it again ; yet when Mr Cruickshank lost his eldest child, he could not refrain from calling to express his sympathy.

With the ministers of other denominations he was ever on the best of terms. When he was in the Establishment he had ever been most happy to exchange with them, and though the heat of the Voluntary controversy for a time rendered this impossible, he was truly glad when it could be renewed.

There was, however, one class of men of whose conduct, notwithstanding his proverbial gentleness, he could not refrain at times from speaking of with indignation and abhorrence. They were the men who had professed the same principles as himself, and in many instances made far stronger statements. He, and those who came out, were in general too humble to speak of what they would do ; but these, after vain-gloriously boasting that rather than renounce their principles they would lay their heads upon the block, when the time of trial came were found trimming their sails, and finding excuses for retaining their stipends, while those who, like Dr Landsborough, had been more modest and humble, had grace given to them by God to make the sacrifice.

From these men Dr Landsborough had shrunk when they made their self-confident professions. How much more when he found them forgetting all their declarations and casting their principles to the winds, often stepping into the superior livings of those who had proved themselves true, while they had shown themselves false. In more than one instance have we known him refuse even to meet with them.

Dr Landsborough was a man of prayer, and he carried this out in his family arrangements. When the children attended school at Saltcoats, it was necessary for them to leave before the hour of family worship, and the first thing done, when they were rung down to the study at half-past



seven in the morning, was to sing a psalm or hymn, read a portion of Scripture, and engage in prayer—the last being shorter than at the usual family devotions. There was thus family worship three times in the day.

He was now in his seventy-fifth year. Let me endeavour to portray him as he might be seen going through his duties among his people. I choose a Sabbath evening.

The public services of the Sanctuary are over, and, after a dinner which had not kept the children from church, Dr Landsborough is seated near to the fire resting. Fido (his dog) knows his master will yet visit the Sabbath School, and when the time draws near he reminds him somewhat energetically that he should bestir himself.

Dr Landsborough rises and sallies forth—his affectionate companion, of course, with him. As he passes through the street he is saluted by every one, and returns the salutation most kindly. The little children all know him, and coming up, make their best bow, and receive a kind word or nod in exchange.

Now he is at the Sabbath School. This was in a most flourishing condition. Not merely is the whole of the area of the church occupied by classes, but the gallery also. Worthy Mr Fullerton, elder—the son of an elder not less worthy—is ever present to represent the Session. He is so deaf that he can hear but little, and yet at the Sabbath School, and also at the teachers' meeting on an evening

during the week, he is always present a few minutes before the hour to see that everything is in readiness ; and he also remains behind the others to make sure that all things are left in order. A most precious man he is—one so devout that he will not even take a glass of wine without first asking a blessing—and so honest, and honourable, and warm-hearted that all highly esteem and respect him. The school is greatly the better of his presence, and his silent but most eloquent example of zeal does much to maintain a high tone among the teachers.

Dr Landsborough had always taken a deep interest in the young, and he is delighted to see so many gathered together to be taught the truths of God's word. He passes from teacher to teacher, with a word of encouragement for each ; while Fido submits to the caresses of the children.

When the school is over, Dr Landsborough—after perhaps visiting a dying person—returns home amid the same salutations. The sight is beautiful, and it does one good to contemplate it.

He is now in the bosom of his family. He is evidently tired, and spends about two hours in his own room. At the time of evening worship he briefly catechises his household, and if in happiest frame of mind, he not unfrequently concludes the day by reading his favourite chapter—the last of the book of Revelation. When he does so he always follows the reading of the chapter by the reflections of

Brown of Haddington upon it, concluding with the words—  
“O when shall time give place to eternity! When shall transient blinks of His glory issue in my being for ever with the Lord! When shall my beloved ordinances of His grace, and this precious, precious, precious book of God, be exchanged for seeing Him as He is, and knowing Him even as I am known, in the face of Jesus Christ! When shall I bid adieu to human explications of divine oracles, and the Lord God and the Lamb be the light thereof—my everlasting light, and my God, my glory!” As he reads these beautiful words his rich voice and evident feeling add greatly to their impressiveness; and the members of his family must ever associate this chapter and these reflections with him who is now enjoying that glory, which, while on earth, he so delighted to anticipate. A short prayer concludes the day.

Twice ten years had now run since the departure of Mrs Landsborough; and now he also was to be called home. His death was very sudden. A number of Naturalists in Edinburgh had arranged with him, for a day's geologising in Ayrshire. He did not meet them, at which they were surprised; but the excursion took place. On their return, at Kilwinning railway station an acquaintance in mourning entered the carriage; and in reply to their interrogation, answered, “I have been at Dr Landsborough's funeral.” The messenger sent to loose him from earth was cholera. This disease had been very

fatal in Stevenston in 1832. Dr Landsborough then forbade his family to pass through the village ; but he himself visited every patient. In the autumn of 1849, Saltcoats, which had escaped in 1832, was visited with terrific severity. For a time great fires blazed nightly in the streets of the infected districts, and each morning the inquiry was “Who are dead?” while the community were so much appalled that, with the exception of Dr Landsborough, not even a minister could be got to visit those attacked. He therefore visited all, but not with impunity, and for the first time for thirty-eight years was unfit for duty, being attacked by diarrhœa so severely as to render it necessary to send in the middle of the night for the Doctor ; but the means employed were blessed, and the trouble speedily passed away. The cholera in the town continued, and the good and brave old man, though for another week he was still the only minister who dared to face it, resumed his work among the sick and dying. The disease reached its height on the 28th and 29th of September, “Friday and Saturday were the most mournful days I ever saw in Saltcoats. In Windmill Street cholera was like the plague. Three doctors and two ministers—(one had now come to his assistance)—were employed the greater part of Friday in visiting the dying. I made three rounds, and it was a mournful sight. Next day was even more mournful. There were eight dead bodies carried to the grave from that street (population 308), and four from

other places. I was much worn out, partly, no doubt, borne down with grief." Cholera again departed. In the autumn of 1854 it, for the third time, returned, though in a much less fatal form; but this time it had a message for Dr Landsborough, his sister, his sister-in-law, and his faithful servant.

It first made its appearance in his family on Wednesday, the 6th of September, 1854, when his widowed sister, Mrs Gibb, was seized, and died. The funeral was on Friday. The writer was present, and remembers looking at his father and remarking with pleasure how healthy and strong he appeared, and of thinking that he might hope he would yet be spared for long.

After the funeral he walked for some time in the garden with his father, who gave expression to his feelings regarding the removal, saying—"I feel it much, as I was much attached to her, and she to me;" then he added, "I cannot say that, taking all things into account, I am sorry, for if she had been spared much longer, she must soon have felt the infirmities of old age, whereas now she has been taken away without knowing anything of them." This remark recurred to the writer most forcibly when a few days afterwards, Dr Landsborough was so suddenly called upon to follow her.

On the Sabbath he had engaged to preach at Fairlie. The occasion of his going was a special collection to reduce

the debt on the Free Church Manse there. The Fairlie congregation, though never large, was at that time wealthy, and had the reputation of being liberal: yet from some cause the collection was small. At the close of the service my father thus announced it—"The collection to-day is to add to the comfort of one who has made large sacrifices for the honour of Christ—It amounts to ——— —‘Tell it not in Gath, publish it not in the streets of Ascalon!’" These were Dr Landsborough's last words in the pulpit. In the course of the week all the money necessary to remove the debt was privately subscribed, and the sum sent to the Manse.

In the circumstances he did not feel inclined to be from home over night, and therefore drove to Fairlie in the morning and returned in the evening.

It has frequently been said that the last texts from which faithful ministers preach are remarkable, and seem indicative of what is about to take place. This was peculiarly so in this instance. In the forenoon his text was, 'We must needs die, and are as water spilt on the ground which cannot be gathered up again'—2d Sam. xiv. 14. In the afternoon, 'Be ye also ready, for in such an hour as ye think not the Son of Man cometh'—Mat. xxiv. 44. They were, doubtless, so far suggested by the death of his sister, but yet the circumstance is striking.

In the evening he returned much tired—doubtless partly caused by depression of spirits. He found his much-attached

servant rather unwell, but it was thought she was suffering merely from cold. Next morning she was worse, and the doctor was sent for, who prescribed for her, and was satisfied with the effect produced.

In the forenoon Dr Landsborough went out, thinking that she was soon to be well, but when he returned in the afternoon he found her so much changed that little hope was left of her recovery. In these circumstances he thought it his duty to go himself to let her mother and friends know of her state. They lived in Stevenston, nearly two miles from the manse, and the day was very hot. It was noticed by several persons that, in returning, he appeared much worn out, and thus in the very state in which persons are most liable to the infection. His servant died during his absence.

In the evening of the same day he himself felt rather unwell, but thought it was only fatigue. He retired at his usual hour to his room, and was able, after doing so, to jot down some notes in his journal, and also to write a letter to his sons in Australia.

About six in the morning he became seriously ill, and two doctors were sent for. They did everything that was possible; but it was in vain, for so violent was the attack that, without suffering pain or being cramped, his constitution at once succumbed.

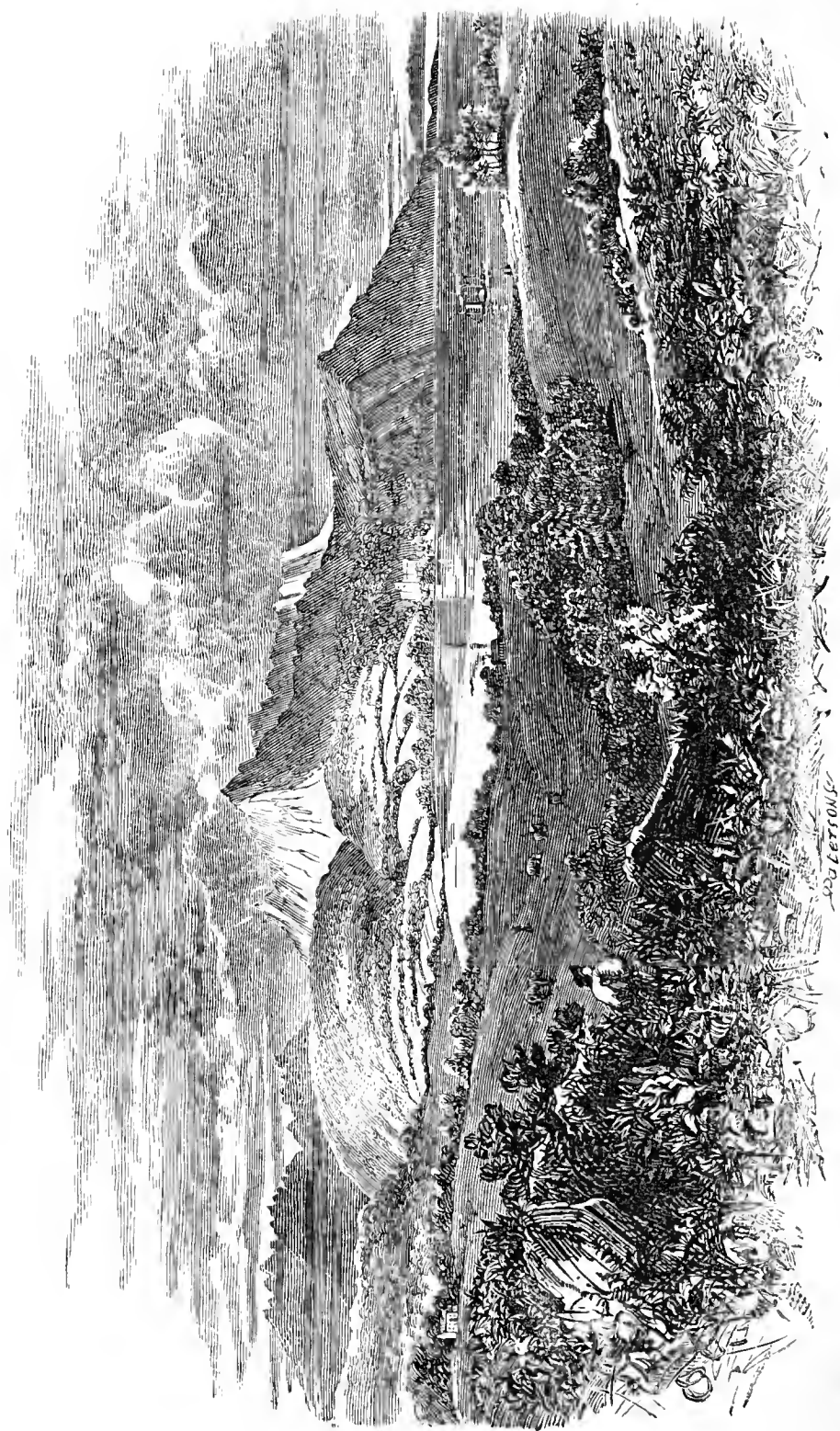
As his medical attendants wished him to be quiet, he spoke little during his illness. About eight o'clock in the

morning the heart of the Naturalist showed itself; for though himself in the hands of death he could not think of his flowers being allowed to languish, and said to one of his daughters—"Water the flowers, they are drooping." After a little, turning to one of his family, he added—"You see what the doctors are doing to me; but it is the Lord's hand; His will be done; cast all your care upon Him, for He careth for you." At six o'clock in the evening, in his seventy-sixth year, without a struggle, he fell asleep in Jesus. The funeral took place on the forenoon of the following day.

Dr Landsborough had seven of a family—four sons and three daughters. One of the sons, mentioned page ninety, has distinguished himself in Australia as an explorer. He was selected by the Victoria and Queensland Governments to command one of the expeditions sent in search of the unfortunate Burke; and he was the first to lead a party in safety, through the interior, from one extremity of Australia to another. In addition to honours conferred upon him in Australia, he was presented with a valuable watch by the Royal Geographical Society of London. The Father's name is inscribed on Natural History objects in Great Britain and New Zealand; the Son printed his on the Map of the Australian Continent—Landsborough's Farthest (in one direction); Landsborough's Route; Landsborough Creek.







BRODICK BAY.



# NATURAL HISTORY OF ARRAN.

## CHAPTER I.

The Sea ! the Sea ! the open Sea !  
The blue, the fresh, the ever free !  
Without a mark, without a bound,  
It runneth the earth's wide regions round ;  
It plays with the clouds, it mocks the skies,  
Or, like a cradled creature, lies.—*Barry Cornwall.*

A CRUISE is rather an anomalous event in the life of a sober country minister, and a dredging excursion is what seldom falls to the lot of even zealous naturalists. Few have at their command the vessel, the sailors, and the dredging apparatus ; and most of us are thankful if we can find time for an occasional ramble for a few hours in a wild glen, or on the mountain-side, or on the teeming shore of the bountiful sea. Great, then, has been my delight at being invited to spend a few days, along with Mr Smith of Jordanhill, in his yacht. The first occasion was for a sail, when we had as our companion that great, and good, and most loveable man, Dr Chalmers, who was so alive to the beauties of nature ; and I remember that looking around on

the grand and beautiful scene at the junction to Loch Long and Loch Goil, he said, with deep emotion, "How wonderful that the Lord should make this sinful world so exceedingly beautiful!"

The next excursion proved also a very delightful one, the weather and the scenery being charming, though we had less dredging than we expected, for at first it was too calm for dredging, unless we had taken to the row boat, and latterly it became rather too rough for the purpose. But dredging was not our only object. Mr Smith is well known in the scientific world from what he has done for geology, especially in that branch of it which bears "on the last changes in the relative levels of the land and sea in the British islands." In carrying on his researches, he saw that it was of importance to make a catalogue of the recent shells found at present in our seas, as well as a catalogue of those that are found in our latest deposits, that they might be compared with each other. At the outset he thought that all these comparatively recent deposits were of the same age, but he has been led to conclude that there are recent, and more recent, deposits. The older of these he calls by the usual name—*The Newer Pliocene*, as it contains a few shells not found at present in our seas. The other he calls *Post-tertiary*—for though it contains no shell that is not at present found in our adjoining seas, it has evidently been deposited when the sea was on a higher level. His lists of Recent, Newer Pliocene, and Post-tertiary shells, are now long, and I have had the pleasure of adding to all the three lists.

But let us begin with the sea off Bute, on our way to Arran. On the 13th of August we *shot* our dredge in the Bay of Rothesay, and were in high expectation of a rich haul, when, lo ! all that was brought up was a heather besom. As it had evidently been a denizen of the deep for a considerable time, I carefully scrutinized it branch by branch, but all that I could discover adhering to it were some young scallops (*Pecten opercularis*) and some small crustaceans—the fry, I believe, of *Galathea squamifera*.

From Rothesay we sailed up the Kyles of Bute, and had beautiful scenery been our object, we could not have been disappointed. It was not new to us, but to me it appeared more charming than ever, as I had never seen it in such fine weather before, except from the deck of a crowded steamer. We had one haul of the dredge before we came to anchor near Ruebodach. It was not very productive. There were hundreds of pretty *Ophiuræ*, such as *O. texturata*, *O. albida*, *O. rosula*, *O. granulata*, *O. bellis*; but as there seemed to be nothing rare among them they were returned to the deep. To many, however, these curious animals would have been a rich prize, as, with the exception of *O. texturata*, and sometimes *O. albida*, they are not often to be got on the shore. The smaller ones, indeed, are not uncommon in shallow water at the roots of sea-weeds and under stones. It may be necessary to mention to some of our readers that *Ophiuræ* are a genteeler tribe of star-fishes, with round bodies from an inch to an eighth of an inch in diameter, from which arms or rays proceed, in some cases three or four inches in length, very like the tails of lizards

or little serpents; which resemblance is implied in the name *Ophiura*—serpent-tails. We got some very large specimens of *Emarginula reticulata*; and two examples of a rare and beautiful *Trochus*, found for the first time in Britain about fifteen years ago, by Major Martin, on the shore near Stevenston Burnfoot. As it was thought to be a new species, it was called by Mr Smith, *Trochus Martini*, but it has since been ascertained that it is *Trochus Millegranus* of Philippi; and now it has been found in several places on the west coast, and lately, I observe, on the east coast.

We afterwards rowed to shore in the boat, and landed near Balnacoolie, where Mr Smith and Mr Sowerby from London, some years ago, had discovered a rich Newer Pliocene deposit. We had not been long ashore till we discovered two or three specimens of *Panopæa Bivonæ*, a rare sub-fossil shell, which we were in search of, as it had been found for the first time in Scotland by Mr Smith and Mr Sowerby in this same locality. The shells are deposited in thick clay. We got some from which the clay had been washed away, and others by digging. The prevailing shells in the deposit are, *Mya truncata*, *Tapes virginea*; *Cyprina Islandica*; *Panopæa Bivonæ*; *Leda rostrata*; *Pecten Islandicus*; and *Tellina proxima*. This pretty little shell is the most abundant, and marks the deposit as Newer Pliocene.

Next morning we set out in the boat for Ruebodach, where Mr Smith and Mr Sowerby first got the *Panopæa*; and there also we got some more of all the species we had got at Balnacoolie. We afterwards visited a vitrified fort, dis-

covered some years ago by Mr Smith, on one of the little islands in the Kyles of Bute. When, and how, and why, were these forts formed? We cannot give any very satisfactory answer. History does not tell. A Roman lamp in my possession, found in the vitrified fort at Dundonald, near the Roman camp, leads us to conjecture that they existed when the Romans had possession of much of our country. The one in the Kyles seems to have been a place of defence, in which the occupants were secured not only by the firm vitrified walls, but by a surrounding ditch, the remains of which are still evident.

On returning to the yacht we dredged for some time; and on hauling the dredge we found it almost filled with fine black mud. Among the mud we found some more *Ophiuræ*, together with a specimen of the pretty zoophyte *Antennularia ramosa* and *Laomedea dichotoma*; and, caught in the meshes of the dredge, we got a fine large specimen of *Brissus lyrifer*, the fiddle-heart urchin, first discovered by Professor Edward Forbes, when dredging with Mr Smith a few years ago in the Kyles of Bute. It was two and one-third inches in length, by two inches in breadth. I kept it alive in a jar of sea-water several days after I returned home. When it died I placed it near the fire, to dry it for preservation as a specimen, but for a considerable time it became more moist and glistening, as some oily matter seemed to exude.

After this we sailed for Arran. We landed at Sannox, and examined the caves mentioned by Mr Ramsay. We reached Lamlash Bay in the evening, during a stiff breeze,

which continued throughout the night. In the forenoon of next day it "took off" a little, according to the phraseology of our sailors, so as to allow us to dredge. To a keen naturalist it is exceedingly exciting to see a well-filled dredge spreading its treasures on the deck. The first haul was full of variety. The mouth of the dredge was filled with *Laminaria saccharina*, on which, among other zoophytes, I was glad to see some good specimens of *Lepralia annulata*, which I had discovered some years before on the Ayrshire coast, when it was new to Britain. Mixed with the sea-weed there were some very large examples of *Uraster glacialis*, a star-fish which is beautiful when only about six inches in diameter, but which loses much of its beauty when full-grown. There were also three examples of *Goniaster Templetoni*, a very pretty scarlet star-fish, generally considered rare, but which I afterwards found was by no means rare in this bay. There were, besides, many examples of *Echinus miliaris*, and some live specimens of *Echinocyamus pusillus*, the smallest of the sea-urchins, which, when alive, is of a beautiful green colour. There was, moreover, the most beautiful *Solaster papposa* I had ever seen—so bright in its colours, and so beautifully shaded, as to be well deserving of the name *Sun-star*. It had one defect. By some enemy, or by some of the hard rubs of life from which the inhabitants of the deep are not exempted, it had lost one of its fingers or arms, or rays; but the *vis medicatrix naturæ* was hastening to make up the mutilation. The kindness of Nature's God is very manifest even to these inferior animals. They lose their limbs, but it would appear that they do not suffer



much thereby; for in emergencies they often throw them off of their own accord, it may be with a fore-knowledge of their second growth, though this is rather problematical. When the soldier loses a limb on the field of battle, he must limp to the end of his days; but if he is a hard soldier of Jesus Christ, fighting the good fight of faith, he has this to cheer him, that he shall be raised up at the last day not only unmaimed, but fashioned like unto Christ's glorious body, to live and reign with the Redeemer in unmingled blessedness for evermore.

As the time was now at hand when the steamer, in which I was to sail for home, was to start from Lam-lash, we *shot* our dredge for the last time. Up came abundance of sea-weeds and sand. Entangled amongst the roots of the sea-weeds I observed something that seemed new to me. Though, when looking among the roots, it seemed scarcely deserving of notice, on its being returned to its native element in a tumbler of sea-water, I was delighted with its beautiful appearance, and soon found that it was *Comatula rosacea*, the feather-star. Let any person who has not seen it, look at the graceful figure of it in the first page of "Forbes' Star-fishes," and he will have some idea of its surpassing beauty when it is seen alive with its numerous scarlet plumes gracefully waving in the water. As I had not at that time heard of its being found in the West of Scotland, I thought it very rare; but I now know that it is not uncommon in this Bay.

But the puffing steamer was now sending up its volumes of smoke, reminding me that I must quit the *Raven*, and,

what was worse, must leave Mr Smith, whose urbanity of manners, scientific knowledge, and great kindness, had contributed so much to my enjoyment of the excursion. There was not time to examine the load of sand which the dredge contained ; but fortunately, before it was all swept back into the deep, I remembered that Mr Bean of Scarborough, had asked me to send him some shelly sand. By applying a lens, I soon saw that it was valuable ; and I sent half a dozen handfuls of it to him, and kept one for myself. He wrote to me that it was the richest shelly sand he had ever got, except from Guernsey. Many of the shells it contained were very minute ; and as the study of microscopic shells was in some degree new to me, I requested him to give me a list of those he found in his larger portion of sand, adding those contained in my handful. After inserting one or two shells found by me in the same delightful bay some years before, the list numbers one hundred and seven species.

When one looks at this long list of living creatures, of which, as there were often many of the same kind, there were some thousands in a few handfuls of sand, we are filled with wonder at the amount of life which the deep contains, and at the amount of enjoyment that a kind Creator grants to even the minutest of his creatures. What wisdom is manifested in their structure, and what exquisite workmanship displayed in the formation of their habitations ! Many of them are smaller than a small grain of sand, and yet when they are placed under the microscope, they exhibit the greatest elegance and diversity of form, admirably suited

to the creatures by which they were inhabited. He who made and lodged these minute creatures, forgets not one of them ; and if his eye watches over creatures, some of which are too small for our unaided eyes to behold, let us not fear that he will fail in his promises to us, if we lay hold on the covenant of promise, and seek to live by the faith of the Son of God, who loved us and gave himself for us. He will be a sun and shield ; he will protect and cheer us ; he will guide us by his counsel while we live ; and when heart and flesh faint and fail, the Lord will be the strength of our heart, and our portion forever.

— In August, 1846, I was again for three days afloat in the *Raven*. The party consisted of four—Mr Smith ; his son, a barrister from London, to delight us with his literary intelligence from the great metropolis ; and there was also the Rev. Mr Story, the kind-hearted parish minister of Roseneath, almost the oldest of my friends. Our route was nearly the same as on the former excursion, so that I shall pass over all that is unconnected with Arran. The sail from the Kyles of Bute was a most delightful one. The halcyon might have cradled her young with perfect safety on the wave. A pair of fine seals sported for a time around us, and having showed us, by their frolicsome evolutions, how expertly they could swim, they showed us also how well they could dive. When we cleared the Kyles, the gentle breeze was still propitious for carrying us down to Lamlash Bay. We never saw Arran to so much advantage, especially a very interesting part of it—from Sannox to Clachland-point. I had passed Sannox before in a steamer,

and enjoyed exceedingly the magnificent *coup d'œil* ; but the steamer moves on with such rapidity, that a person gets but a hasty glance ;

“ A moment seen, then lost forever.”

In a yacht, however, with a light breeze, the eye can leisurely enjoy the feast. Stately *Cioch na h-Oighe* first presents itself ; moving on, you have next a full view of pyramidal *Cir Mhor* filling up the gorge of the glen ; while, over its shoulder to the left you see the summits of some of the pinnacles on the west side of Glen Rosa ; and gliding on a little farther, you obtain a view of the whole sweep of Glen Sannox, including *Ceum-na-Cailliach* and *Suidhe Fhearghas*, and all the range of peaks on the north side. You have not long passed Glen Sannox till you come into Brodick Bay, when Glen Rosa and the surrounding scenes open on you with equal grandeur, conjoined with the loveliest features of beauty. This scene, whether beheld from the Bay, or as the vessel progresses towards Clachland-point, is seen and admired by so many thousands every season, that I shall not attempt to describe it.

Having reached Lamlash Bay, we landed on the Holy Isle. Mr Smith, junior, and Mr Story, ascended the hill, which is about 1000 feet in height. As I had been repeatedly on the top of it, Mr Smith, senior, and I, went to examine a Post-tertiary deposit, corresponding with one on the opposite shore, to the south of the village of Lamlash, where a bed of shells is found about thirty feet above the present sea-level. Being afterwards joined by our friends

from the top of the hill, we proceeded to *St Molios' Cave*, which I had not seen for twenty years ; so that I had forgotten its appearance. Though about twenty-five feet above the level of the sea, it is evidently a water-worn recess under the sandstone rock, which has all the appearance of having been formed by the beating of the waves, when the sea was at a higher level. We looked for the Runic inscription, which I had heard was engraven on the rock, and as I had been rather incredulous on that point, I was a good deal gratified by finding an inscription which had a very antique appearance, and which not one of us could decipher, not even our learned barrister, though he had had the high honour of being first Wrangler at Cambridge—an honour which had not before fallen to the lot of any Scotchman. But though we could not read the writing, we could drink of the crystal well, and judge of its excellence ; and we are safe in concluding, from what we saw and tasted, that the streams of living water which the fountain sends forth are as sweet and exuberant as when they yielded daily refreshment to the venerable saint, and the crowds who came to listen to his instruction. This island took its name at an early period from this holy man. We are told in the Norwegian account of Haco's expedition, that after the battle of Largs, " the king sailed past Cumbra to Melansey, where he lay some nights." In the original it is Melanzeyiar, or in the Flateyan M.S. " Melansey,"—evidently the island of Melos or Molos, *ey* or *eyiar* in the Islandic meaning "*island*." Pennant tells us that " Buchanan gives this island the Latin name *Molas* and *Molassa*, from its having been the retreat

of *St Maol-jos*." "St Maol-jos's cave, the residence of that holy man ; his well of most salubrious water ; a place for bathing ; his chair ; and the ruins of his chapel, are shown to strangers ; but the walk is far from agreeable, as the island is greatly infested with vipers." To us the walk was very delightful. The evening was one of the finest of the season ; the vipers, though not quite extirpated, had gone to rest ; some birds among the rocks and brakes were raising their evening song ; and it was scarcely possible not to look back to the time when the departed saint had, from his rocky cave, raised his song of praise as incense, and when the lifting up of hands, and heart, and voice, in prayer, had been as the evening sacrifice. Though a place becomes not sacred by being the abode of holy men, it says little for our piety if we can visit such a place without reverential feelings, and without raising the wish that we may be followers of those who through faith and patience are now inheriting the promises.

We were much pleased also with the geological features of the island. The columnar cliffs, though far inferior in grandeur to those of Staffa, are nevertheless strikingly picturesque. If they have not the regularity of more celebrated geological colonnades, they are at least free from stiffness, as they consist of various stages or terraces of columns, intermingled with amorphous masses of other rocks, and a sprinkling here and there of herbaceous plants, stunted shrubs, and dwarfish trees, springing from the interstices of the cliffs.

It was getting dark by the time we returned to the yacht ;

but though it was dark, our eyes were to be feasted. During the day I had let down into the deep a little gauze net, in the hope that it might capture some stray *Beroës* or *Medusæ*. When I began to haul it up in the dark, long before it reached the surface, it seemed a little marine balloon filled with Greek fire. Its wake also was luminous, so that it was truly a splendid object. We had observed this phosphorescence the preceding evening, when we had been under sail, with a slight breeze. Every wave seemed crested with fire. In the midst, however, of the fiery wave, little stars of considerably greater brilliance might be seen sparkling for a few seconds, and then vanishing. In addition to this, we saw occasionally, at a considerable depth under the surface, luminous appearances, which we were told by the sailors proceeded from shoals of herrings that were passing us. The succeeding evening, when lying at anchor in the Bay, we amused ourselves by splashing in the water with an oar or rope's end, so as to produce the phosphorescence. So great was the brightness, that we thought it possible to read by the light of these myriads of marine lamps; but though the page was illumined, we could only guess at the contents.

The two ministers were indebted to their Commadore, Mr Smith, for additional light he was able to throw on an interesting passage of Scripture in the Acts of the Apostles. There was a fine painting in our cabin of St. Paul's weather-beaten ship at anchor off Malta. This had been executed according to Mr Smith's directions. As he spent a winter lately with his family in Malta, his active mind was led most minutely to investigate everything connected with this

shipwreck ; and, by a critical examination of the original record by Luke—by studying the structure of ancient vessels—by soundings taken at the very place—and by a variety of things which I shall not enumerate, he has been able to make the passage much more intelligible, and to prove that *Melita* was the *Malta* of the present day. I shall mention only one instance of the advantage derived, for the elucidation of the subject, from studying the structure of ancient vessels. They “loose their rudder-bands.” (Acts xxvii. 40.) I confess I had not been able before to attach any distinct meaning to this. In the painting, however, to which I have referred, you see clearly what it means. They had “cast four anchors out of the stern.” Before they had done this, they had bound up the *rudders*, to be out of the water, otherwise they would have been shattered by the waves. In ancient vessels there was not a hinged rudder, as in modern ships, but one on each side of the stern, in the form of a large oar ; and when they had taken up the anchors, or rather, as in the marginal translation, had cut away the anchors, and were going to set sail, you see in the painting the crew loosing, not the “rudder-bands,” according to the common translation, but “the bands of the rudders,” according to the original, that they might be let down into the sea again, to regulate the vessel in “making toward shore.”

Saturday came, and recalled Mr Story and myself to our duty. The boat which carried Mr Story from the yacht to the morning steamer was accompanied by a boat of rather a singular construction. I had observed on the deck of the yacht a very comfortable looking hussar-cloak of fine blue



cloth ; and I concluded that it had been brought for protection from sea-spray, if the weather proved stormy. I found, however, that it could be used not only in storms, but in fair weather, and that it was somewhat like Goldsmith's cottage piece of furniture—

“A bed by night, a chest of drawers by day.”

It was lined with Macintosh, so as to exclude water and to imprison air injected by means of bellows, formed like an accordion. Mr Smith, junior, to whom this cloak appertained, caused a portion of it all around to be thus filled with air ; and then the cloak became a boat, which he launched, and entered, and in which he could either recline, resting his head on an air-filled pillow ; or in which he could sit, plying a paddle in each hand. When, by the action of his paddles he shot off towards the steamer in the Bay, the passengers were filled with wonder ; and one of them, after uttering an ejaculation, cried, “There's a man *sooming* in his bed.” It was really a strange looking craft ; and could he have played the harp at the same time that he plied the paddles, the classical part of the steamer's crew might have thought that it was Arion riding on a dolphin. When he returned to the yacht, he said to me, “It is not very easy to capsize this boat ;” and, saying so, he placed himself on one of the inflated gunwales, when over went the boat, with the steersman under it. Though I knew that he was an excellent swimmer, I was rather alarmed when he disappeared. But he soon popped up his head, and righted the boat, and got into her again, telling me that he had overbalanced her

intentionally, which I soon saw was the case, for he repeated the feat ; and, being very lightly dressed, he could swim about with great ease, and board again, when he chose, his aëriferous vessel.



## CHAPTER II.

“To the shores ! where the bright green sea  
Its snowy spray is throwing ;  
Down by the mystic-looking caves,  
Where healthful winds are blowing.  
There cull the treasures of the deep,  
Where gems of pearly beauty lie,—  
Where sea-birds their carousals keep,  
Chiding the stranger wandering by.  
The sea ! the sea ! its lonely shore,  
Its billows crested white ;  
The clouds that flit its bosom o’er,  
Or sunbeams dancing bright :  
The breakers bursting on the strand  
In thunders on the ear ;  
The frowning cliff, the silvery strand,  
Each—all to me are dear.”

ON the 9th of June, 1845, being free from any special engagements for nearly a week, we set off, *en famille*, for our favourite island. Though the day was both wet and windy, we found ourselves in the afternoon comfortably located in the pleasant village of Lamlash. Next morning was the commencement of delightful weather, and at an early hour we set out to enter on the enjoyment of it. Every parent knows how much the pleasure of any little

excursion is enhanced when his family share in it along with him. And yet in the happiest circumstances there is often a tinge of melancholy. How often, in these little excursions, in looking back on the past, are we reminded of the valley of tears we have passed through, and of the pangs of separation we have experienced ! Mournful must be the gathering of the heath fowl at the close of an autumnal day, when the destroyer has been among the hills, when the brood has been widely scattered, and when the sheltering wings under which they had been accustomed to collect and cower, are in the possession of the sportsman, cold, and bloody, and lifeless. We mustered pretty strong—a son and three daughters were along with me. But one was not—the beloved mother of the children—and three dear lads who had at times spent delightful days among these hills and glens, were on the opposite side of the globe, tending their flocks and herds in the distant wilds of Australia. May we all be diligent in preparing for that happy land where no dear fellow-traveller drops by our side, and where no intervening seas separate the members of God's ransomed family !

The early days of June had been cold and stormy, which made us more highly prize the lovely day that now shone forth on us. Our first walk was to Clachland-point, and thence along the rocky shore towards Corriegills. As we all had a turn for natural history, we found much to interest us. At the outset we kept close by the shore, and gathered a few good shells, especially one which is not found with us, but is very common here, *Cardium lavigatum* (*C. Grœnlandicum*), the smooth cockle, of which we collected some large

specimens. By the clothed appearance of the ancient sea-cliffs, we were induced to diverge from the shore. The space betwixt the sea and the cliffs must once have been under the dominion of the sea; for in some places the soil is quite marly—made up of the common coral (*Millepora polymorpha*), and small marine shells, and sand. The other side of the Bay is evidently a raised beach, as there is a deposit of marine shells above thirty feet above the present level of the sea. A pretty numerous list might be made of the plants which we found in this part of our walk. There are some fine mosses on the moist cliffs; the rarest of which are *Entosthodon Templetoni* and *Jungermannia Hutchinsiae*. The latter was new to Scotland when I found it about seven years ago in a dripping cave at this place. We found on the rock several specimens of the royal fern, *Osmunda regalis*, a magnificent plant, the fronds of which, in Arran, are sometimes almost a dozen feet in length. I shall certainly not speak of the wild hyacinth, wood anemone, and primrose, as rare; for much of their beauty consists in their great profusion. The last, in such a situation as this, is exceedingly lovely—a sweet emblem of modesty, purity, lowliness of mind, and cheerful, smiling happiness. The primrose season was about over. Though we are not sure about “*modest pride*,” the following sonnet must have been written by a primrose-lover:—

“How sweet thy modest unaffected pride  
Glow on the sunny bank and wood’s warm side!  
And where thy fairy flowers in groups are found,  
The school-boy roams enchantedly along,  
Plucking the fairest with a rude delight:

While the meek shepherd stops his simple song,  
To gaze a moment on the pleasing sight ;  
O'erjoyed to see the flowers that truly bring  
The welcome news of sweet returning spring."

The moist ground at the base of the rocks was adorned with marsh plants of great beauty—*Drosera*, *Anagallis tenella*, *Samolus Valerandi*, and *Myosotis palustris*—so exceedingly fine, that instead of saying, beseechingly, "Forget me not," it said, as plainly as its lovely blue eyes could say it, "*Can you forget me?*" The hawthorn and the honeysuckle were sending forth their fragrance from the copsewood ; the mavis and the sooty merle were contending in song ; the latter striving to make up, in mellowness, for the evident superiority of the former in variety and liveliness. The cuckoo, though she had but two notes, seemed well aware that they were welcome ones ; for she accompanied us in our walk, as if unwilling that a voice which is always heard with pleasure, and which was soon to be silent, should be wasted in solitude, where there was no ear by which its music could be appreciated. The cows, after browsing on the green sward, were indulging in sweet and peaceful rumination ; and the little boy that tended them, taking advantage of their repose, was enjoying still higher happiness in wantoning amongst the briny waves. What a happy world would this be were there no sin in it ! When creation groans, it is because of sin. When the believer, in the struggle with sin, cries out : "O wretched man that I am ! who will deliver me from the body of this death ?" God in his mercy teaches him to say : "I thank God, through Jesus Christ our Lord." How much

greater happiness might we enjoy even in this world, were we more grateful to this spiritual Deliverer; were we to walk more closely with God; were we to see more of his hand in the lovely garniture of the earth, and more of his goodness in the happiness enjoyed by the inferior animals, and in causing the beauty of external nature, and the enjoyments of so many living creatures, to contribute, when the heart is renewed, to the higher happiness of man!

As soon as we reached the Clachland-point, which is the north-east extremity of Lamlash Bay, we turned down to the sea, being chiefly in search of marine productions. One of the living varieties to be found among these rocks is *Asterina gibbosa*, the gibbous starlet, a pretty little star-fish, which I have not seen mentioned as found anywhere else in Scotland, except by Professor Edward Forbes, among the gneiss rocks of Ross-shire. We were, however, chiefly in search of the finer algæ, which are either got among the coarser sea-weeds, cast out by the tide after a breeze, or in settled weather must be sought at low water mark, where they grow on rocks, or as parasites on the larger algæ. Rare kinds are often got by dredging, as they adhere to shells and other substances brought up from the deep. Rich are the groves which in many places clothe the bottom of the sea. Few, perhaps, have been out in a boat in calm weather without admiring the beauty of these submarine forests. It is delightful to observe the elegance of the algæ in their native element, and to see fishes, and various other inhabitants of the deep, playing amongst the fronds, as birds among the branches. These sea-plants not only afford food and

shelter to innumerable living creatures, but they are of immense benefit to man, when they are torn up by the storms, and cast out by the tide. The agriculturists at Lamash are fully aware of their value, and the shore is divided into lots, according to the number of tenants of ground in the neighbourhood; and that they may not complain that their neighbours' lots are richer in sea-wrack than theirs, the lots, instead of being assigned to them in perpetuity, are given to them in rotation, the exchanges being made once a-year. We see how easily the Lord can make the war of elements to serve the purposes of his benignant providence, and cause the spoils of the ocean to increase the fertility of the dry land.

But it was the small and delicate Algæ, or seaweeds, that we were in search of. The time is not very far past when these were the reverse of popular. About fifty years ago, even in academic chairs, they were treated with disdain. We have heard of a student (probably himself) about that period, who having collected some beautiful Algæ on the shore, showed the contents of his vasculum to the Professor of Botany, whose lectures he attended, expressing a wish to get some information respecting them. The Professor looked at them, and, putting on his spectacles, again looked at them; when pushing them from him he exclaimed, "Pooh! a parcel of seaweeds, sir; a parcel of seaweeds!" The classical poets of ancient times seem to have agreed with the Professor. Horace speaks of "*inutilis Alga*," useless seaweed! Tasteful Virgil goes even beyond his friend Horace, for, when speaking of some-



thing which he regards as worthless and filthy, he says that it is "*Alga projecta vilior*," viler than the seaweed cast out upon the shore. Its very calamities are turned against it. "*Refunditur Alga*," says another poet, the sea loathes and flings it out upon the land! Alas! for the poor Seaweeds, when the Princes of Poetry in the Augustan age are against them! But as there were no Seaweeds in the streets of Rome, or in the yellow Tiber, they may have spoken thoughtlessly, and without any *malice prepense*. We shall, therefore, appeal from the ancient court of the Muses to the taste of the present day.

We found, in pools among the sandstone rocks, what is rather rare, and, at all events, very beautiful—*Bryopsis plumosa*; well named specifically *plumose*, for the frond is the exact resemblance of a fine glossy green feather. Some of the others I shall merely name: *Conferva* (*Chaetomorpha*) *melagonium*, growing along with the *Bryopsis*; *Ceramium ciliatum*, on the rocks, and *Ceramium diaphanum*, on the stronger algæ; *Polysiphonia Brodicii*, *Polysiphonia fibrillosa*, *Calithamnion Hookeri*, *Calithamnion polyspermum*—all on the rocks. In a little boat creek, near the point, we found, among the weeds that were drifted in, two that were rare. The one was *Rhodomenia sobolifera* (a variety of *R. palmata*)—parasitical on the stem of *Fucus serratus*. The other was still rarer—*Laurencia* (*Chondriopsis*) *tenuissima*: which I do not think had been got in Scotland before, and I got only one drifted specimen. I may mention that all the sea-weeds are cryptogamic plants, destitute of flowers, but having, instead of flowers, capsules and granules, which are

called their fruit or fructification ; and it is often by these minute parts alone that they can with certainty be distinguished.

Along this coast many species of *Desmédieæ* and *Diatomaceæ* may be found—indeed there is no better place for them in Arran, or almost anywhere than in the cliff-sides and saltish marshy ground between Corrygills and Invercloy. They are the minims of creation to which the saying, “God is *maximus in minimis*” does more strikingly apply, for the exquisite beauty and minute delicacy of the carving with which these are adorned far exceed anything one ever imagined. Think of an object all but invisible to the unassisted eye, magnified several millions of times, and new beauties of utmost perfection only then beginning to disclose themselves. We read with wonder of upwards of a hundred thousand persons congregated in one Crystal Palace ; and yet we think not that in a single drop of water taken from a pond, we may have, could our eyes behold them, a still greater number of God’s living creatures freely desporting as in a crystal palace ; finding also their aquatic habitation stored with all that is necessary for the support of their happy lives. And so prolific are these little creatures that Ehrenberg, the highest authority in such matters, calculates that in a few days a single individual may increase to a million, and that in a few days more the increase may be numbered by billions, trillions, and quadrillions. These are numbers we can pronounce very glibly, but do we attach any distinct idea to our words ? A friend of mine, on hearing his son, who had got some lessons in arithmetic, go very trippingly

over his enumeration table, said to him—"George, you deal in mighty numbers, and seem quite familiar with quadrillions ; for how much will you count for me a quadrillion of these peas I am now sowing in the garden ?" George, who was an off-hand lad, and thought he was making a good bargain with his father, replied—"I'll do it for twopence." He was safe had he known it, for he had only to make the reasonable demand that the *matériel*, on which his arithmetical labours were to be exercised, should be produced, and his father must have owned that he could not furnish it ; but George was glad to back out from the bargain, on being shown that though he were to live a hundred years, and spend every moment of this long life in the monotonous task, death would overtake the aged pulse-counter when the ill-paid reckoning was scarcely begun.

I shall mention only one of these minims, *Licmophora splendida* (The splendid Fanbearer). This plant had not been found since its discovery at Appin, by Capt. Carmichael, till it was got in considerable abundance by D. L. jun., in September, 1848, at low water mark, in a little creek formed by trap dykes, in the parish of Ardrossan. When he brought it to me I was greatly struck with its beauty. Hoping that it was *L. splendida*, I sent it to Dr. Greville, and was gratified by his pronouncing it to be that rare plant. Though minute it well deserves the name splendid ; for it resembles an assemblage of hundreds of beautiful little fans. Had I believed in the existence of fairies as I did in my childish years, I could have imagined that some marine Queen Mab, and all the ladies of her

court, were congregated amid the branchlets and filaments of the little Alga, *Materiem superabat opus*; every fan was of exquisite workmanship. Raised on a little stem they were spread out so as to form in some cases more than a semi-circle, the rays numbering from ten to twenty-six. Each ray or frustule was wedge-shaped, and a little denticulated at the top. The upper part was amber-coloured, and as each ray had a lighter coloured dot in the centre of this portion, these bright dots formed a crescent of sea-gems, adorning the fan. Under this amber-coloured portion there was a pellucid band; the lower part of the fan being amber-coloured like the upper. Aided by a microscope the whole was so beautiful, that a lady to whom I showed a portion of it thus magnified, told me—"I could not fall asleep for a long time that night, as the lovely fans seemed ever before my eyes; and when I did sleep I dreamed of them." What adds to the wonders of these Diatomaceæ, is that they are partly formed of flint, which they extract from the waters, so that though seemingly frail, they are imperishable! It is one of the interesting discoveries of recent times that these little animals serve a most important purpose in the economy of nature, and that of a kind we could not have anticipated, for the functions of animal life are *reversed* in these infusorial animalcules. Instead of evolving carbonic acid gas, as other animals do, they evolve oxygen so pure that a small bit of deal matchwood, on which a flame has just been extinguished, will, if immersed in the air-bubbles given out by the water in which these minims abound, burst again into a flame.

Arran has been said to be the epitome of the geological world; and I believe that it is not possible to find any place where, in so narrow limits, there is such noble scope for the study of geology. This study may be abused, and has by some been made to serve the purposes of the sceptic; but this is not the fault of geology, but of him who perverts it. The wasp, it has been alleged, can extract poison from the very flower from which the happy bee extracts delicious, nutritive honey. When the eye is single, there is nothing in nature, with the exception of astronomy, so well fitted as geological researches to fill the mind with adoring wonder, and to give us exalted ideas of the wisdom, and power, and goodness of God. Though "the heavens declare the glory of God, and the firmament showeth his handiwork," there have been those who, with wicked ingenuity, have attempted to show that the discoveries of astronomy are at variance with what is taught in the Bible; but they spoke in ignorance. When Halley, in the presence of Sir Isaac Newton, ventured to sport some of his sceptical opinions, that great and good man, interrupting him, said: "Mr Halley, when you speak respecting astronomy, I listen with pleasure, for it is a subject that you understand; but when you speak of religion, you speak of what you do not understand, and have never studied; but I have." How many sceptical theories have fallen into merited neglect and contempt, and have only shown how ignorant the theorists were both of true philosophy and of true religion!



### CHAPTER III.

How sweet to muse upon the skill displayed  
(Infinite skill !) in all that He has made,  
To trace in Nature's most minute design  
The signature and stamp of power divine.—*Cowper*.

THOUGH Lamlash has not all the beauty and grandeur of Brodick, it is very far from being devoid of interest. Nature has done much for it. The noble Bay, forming a semicircle, is fully three and a-half miles in length from north to south. In the mouth of the Bay stands the Holy Isle—a magnificent cone, more than a thousand feet in height. On each side of the isle there is a convenient entrance into the Bay, which it protects and adorns ; and within there is excellent anchorage-ground, of sufficient depth for the largest vessels, and capable of containing a whole navy. What a magnificent breakwater does the Holy Isle form ! We read with wonder, as an astonishing achievement of science, of a breakwater being formed by innumerable beams, seventy or eighty feet in length, driven through earth and rock by the tremendous power of the steam-hammer ; but what is this but as the work of insects, compared with the stupen-

dous might which must have been exercised when this gigantic mole was pushed up through rock, and earth, and water; and the elevated sandstone overflowed by a stream of melted porphyry! Behold the power and the goodness of God! How many, after weathering the storm, and casting anchor under the shelter of this mighty breakwater, have said: "Thanks be to God, we are in Lamlash Bay!" Had Virgil ever been in Britain, we would have thought that he had Lamlash in his eye when he wrote the following description:—

"Est in secessu longo locus; insula portum  
Efficit objectu laterum," &c.

"Within a long recess there lies a bay;  
An island shades it from the rolling sea,  
And forms a port secure for ships to ride." — *Dryden*.

While it reminds the classical scholar of the stately hexameters of the Mantuan bard, it reminds the pious Christian though learned only in his Bible, of HIM who is "as a hiding-place from the wind, and a covert from the tempest;" and of the strong consolation experienced by those who have fled for refuge to lay hold on the hope set before them; which hope they have "as an anchor of the soul, both sure and steadfast, and which entereth into that within the veil."

Near to the south end of the neat and cheerful village stands *Whitehouse*, the residence of Mr Paterson, the Duke of Hamilton's factor. How much, within my remembrance, has this place been improved and beautified! The rising grounds on each side yielded, some twenty years ago, a scanty crop of grass and heather; an extensive plain behind

the house, if I remember aright, was full of peat holes ; the ground before the house was a quagmire, on which the hungry cattle at times ventured, at the risk of being swallowed up. The quagmire has been converted into a beautiful verdant lawn ; the undulating heights and the peat-producing plain are now waving with the richest crops ; the house is embowered in flowering shrubs ; and the garden is stocked, not only with culinary esculents and common fruits but it yields also peaches, and nectarines, and figs. The lover of flowers will find here everything rare and beautiful ; and, even at Christmas, he may see *Camelia Japonica* in flower in the open air. On one side of the lawn, the bare walls of an old kiln have been made to assume the appearance of the picturesque ruins of an old chapel, on entering which a person might think that he had made a rapid transit to Madeira, as he sees so many tender exotics in the most healthy and flourishing condition, with no other protection than the ruined walls. One plant of *Fuschia discolor* is so remarkable that a friend and I had the curiosity to measure it, and found that it was eighteen feet in height by twenty-two feet in breadth. It sows itself so freely that a numerous offspring may be seen springing from the border, and even from the chinks and crevices of the walls.

It is pleasant to see, under the influence of taste, and skill, and active industry, the face of nature assuming a more smiling aspect, and the grateful earth rendering more bountiful returns ; but how much more pleasant to see any portion of the moral wilderness beginning to blossom, and, instead of the natural crop of thistles and thorns, rearing



trees of righteousness, soon to flourish in a happier land ! As we are all bound to have a share in this spiritual husbandry, should we not individually say to ourselves, What have we been doing ? Ministers of the Gospel have a great responsibility ; for to each of them a large portion of the field to be reclaimed is assigned. It is not all unproductive. Here and there, there are blossoms of hope, and sweet olive plants that need to be watered ; and here and there, there are trees, over which the storms of many winters have passed, and which need to be sustained. Should not the spiritual labourer go often to see whether the vine flourisheth—whether the tender grape appears, and the pomegranate buds forth—whether the fig tree putteth forth her green figs, and the vine with the tender grape give a good smell ? But, alas ! when he looks for vines, and fig trees, and pomegranates, how often does he find only crab-trees and wild olives, yielding, instead of mellow fruit, nothing but what is sour, unsavoury, and unwholesome ! Up, then, and be doing, thou servant of the Lord ! *Thou* canst not change their nature, but thou canst bud, and ingraft, and dig, and water, under the directions of the great spiritual Husbandman, who is ready, in answer to thy prayers, to prosper the work of thy hand, and to render it successful. And should not every parent likewise be up and active ? The field assigned to him may be small, but is it not precious ? and should he not most earnestly desire that it may be as a field which the Lord has blessed—watered, as the garden of the Lord, with wells of living water, and streams from Lebanon—every olive plant grafted and fruitful, and every

vine branch from the right stock, and already laden with purple clusters?

We took a walk in the forenoon towards the southern extremity of the Bay; but it yielded nothing except the pleasure of the walk. A great treat awaited us in the afternoon. We learned, that the fisherman of late has been in the habit of dredging in the Bay for scallop (*Pecten opercularis*),\* to be used as bait; and we hired his boat and dredging apparatus. There is nothing so delightful to naturalists at all acquainted with the wonders of the deep, as a dredging expedition; for it brings within their reach much that they could not otherwise expect to see. We were disappointed on finding that the larger boat was under repair; and as the small boat would have been unsafe with seven aboard, we set the females ashore on the Holy Isle, with instructions to visit ST. MOLIOS' Cave, while we were carrying on the dredging operations. While rowing to the dredging ground, we looked with delight around us. Seaward, our view was bounded by the Holy Isle; landward, we had not only the hills and glens around Lamlash, but, towering above these humbler heights, we saw Goatfell and the adjoining cliffs, forming a noble background of rugged grandeur. The Bay itself, smooth as glass,† reflecting, as in a mirror, the surrounding scene, gave us not only mountains rising to the sky, but similar peaks descending into the deep recesses of the sea.‡ But we were about to explore

\* They are better known in Scotland under the name of *clams*.

† On the 5th of May, this year (1875), the waters of the Bay of Brodick were so smooth that standing on the Invercloy pier I saw re-

these recesses for something else than mountain shadows. Accordingly, the dredging began, and the first haul brought up some dozens of scallops. The scallops (or *Pectens*) are a beautiful tribe, and both the shell and its inhabitant show forth the praises of the Lord. Are any disposed to think the scallop must lead a joyless life, lying inert in the dungeons of the deep? The *Pecten*, let me tell them, is a happy active creature. It can raise itself to the surface, and though unaided by fins, can skim cleverly through the waves. I have seen a little fleet of them skipping about most merrily, as if engaged in some frolicsome dance. On watching their zig-zag evolutions, I found that their valves were to them in the water what wings are to a bird in the air. Every time they opened and shut their valves, they were rapidly propelled several feet, and they had only to repeat the operation and their sportive movement was continued. Others may say: "What a pity, poor things, that they are blind!" Your pity is again misplaced. You are happy in having two eyes, and will you pity the scallop which has three dozen? Look at it when it opens its shell. See you a circle of beads around the margin of its body, both in the upper and under valves? These pretty beads are sparkling eyes; so that He who made it, and made it to be happy, left it not to grope its way in darkness, either in the mazes of the dance or when engaged in searching for

flected upon them the clear and delicate green of the foliage of early summer; Brodick Castle, so perfectly that its windows were distinctly visible; and also the grand mountains—Goatfell, whose top is four miles from the pier, being mirrored in the centre of the Bay.—D. L. jun.

food at the bottom of the sea. But we were in search of something rarer than scallops, and now for the result.

Though at one haul we had got abundance of scallops or clams, it was not for the clams that we much cared, but for their parasitical accompaniments. Accordingly we scraped off, with great care, what few would have thought deserving of the smallest notice ; for though, in the huddled state in which they adhered to the shell on it being removed from the water, we could not precisely say what they were, we were sure that they were well worth attending to. We were not disappointed. On floating them in fresh water, on our return to the shore, we found that we had got several species of rare and beautiful algæ. There were some small, but very fine specimens of *Laurencia dasyphylla*. There were four most beautiful species of *Calithamnion*—*C. plumula*, *C. byssoideum*, *C. gracillimum*, and *C. pedicellatum* (*Corynospora pedicellata*). There were also specimens of *Bonnemaisionia asparagoides*, deriving its specific name from its resemblance to a branch of asparagus, though, instead of being green, it is pink. There were, besides, some specimens of *Griffithsia corallina*—a beautiful plant, which we had not before met with in the west of Scotland. It has been named *Griffithsia* as a tribute of respect to Mrs Griffiths, Torquay, whom we sometimes denominate the Queen of Algologists.

These beautiful algæ were not the only parasites on the scallop shells. There was something more conspicuous, as it was about four inches in length, but certainly it did not seem more attractive. It was like a *drookit* white feather. But place it again in the water, and what does it become ?

It has recovered from its state of collapse, and, though still like a feather, it is one of great beauty and elegance. It is *Plumularia pinnata*—a zoophyte ; for we have risen in the scale of being, and have now got among living creatures. You would not think that that beautiful white feather had life ; but it is only the habitations that you see. The alarmed inhabitants have fled into their houses. But place the polypidom, as it is called, in a tumbler of sea water, and when the alarm is over, the inhabitants will again appear. The polypes are hydra-form, and spread forth many tentacula in search of food, which they greedily grasp. The feather is formed of calcareous matter, mixed with gelatine, to give it flexibility, so that it may the better stand the buffeting of the waves. Observe the stem or quill of the feather, and you will see that it is full of red matter. That is the medullary pulp. Every plumule of the feather is a street. Even with the naked eye you may observe on each plumule about a dozen notches or denticles. Each of these is the house or *cell*, as it is called, of a polype ; so that, in a good specimen, we see a kind of marine village, which under the teaching of God, has been beautifully constructed by the thousand inhabitants which it contains.

Along with this, we got some specimens of a kindred zoophyte, of great beauty—*Plumularia Catharina*. Neither of these had been got by us in the west before. There were several other pretty zoophytes, which some will thank me for passing over unnamed. I may, however, mention that on the frond of *Laminaria* I got several good specimens of *Lepralia annulata*—a zoophyte which was new to

Britain when I found it on the Ayrshire coast some years ago.

Every haul of the dredge brought us up something to increase the variety. There were several kinds of star-fishes—such as *Uraster glacialis* (Spiny cross-fish); *Goniaster Templetoni* (Templeton's cushion-star—rare); and many others which I shall pass over, that I may attempt to describe one of surpassing beauty, not got on the west coast of Scotland, I believe, since the days of our distinguished zoologist, Pennant. This is *Comatula rosacea*, or the feather-star. It is one which, even in dredging, a person who does not know it is apt to pass over. It has no beauty when entangled among the roots of *Laminaria*. Fortunately, however, I took the trouble of disentangling it and great was my delight when, having cast it into a tumbler of sea-water, I saw it spreading itself out in all its beauty. Could I place before you Professor Forbes' fine figure of it, you could not help admiring it. If you saw a fine little scarlet ostrich feather in the water, waving with life, you would say: "What a beautiful object?" How much stronger would be your expressions of admiration if, from the disc, or body in the centre, you saw proceeding some twenty or thirty of these scarlet plumes, instinct with life, and exhibiting the most graceful evolutions! What gives greater interest to it is, that in its young state this scarlet feather-star is mounted on a stem, and then it is the representative of a tribe of marine animals now rare, but which, in an early period of the world's history, must have been very common, viz., encrinites, or stone-lilies; for their stems are abundant in al-

most every limestone quarry, and their detached joints are well known under the name of St. Cuthbert's beads. These ancient encrinurites must have been giants compared with those of the present day ; but great, and numerous, and lively as they once were, they now lie entombed in the calcareous mud, hardened into limestone, and elevated by some great convulsion from the bottom of the sea. And numerous and mighty as the human inhabitant at present on the face of the earth may appear in their own eyes, the time is fast approaching when the all-devouring grave shall have closed upon them, and the place that now knows them shall know them no more.

But leaving the star-fishes, we came to a kindred tribe—the sea-urchins. Besides the common one (*Echinus sphaera*), and a less common one (*Echinus miliaris*), we got one which is certainly very rare in the West of Scotland, for I had never got it before, viz., *Spatangus purpureus*. Every person knows the common one found so abundantly on the shore stripped of its spines, and called the sea-egg. The spines of the common one are of a yellowish-white colour. Those on the back and sides are hair-like, and pointed. Those on the under part of the body are spoon-shaped, and are employed as shovels. The wisdom and goodness of God are very evident in the formation of these spines, so well fitted for burrowing. I remember placing one, which had been dug up, on wet sand. It seemed to be motionless ; but I soon found that the spoon-shaped spines were busily at work beneath, shovelling the sand from under it, so that it was sinking in the sand, while the long sharp upper ones

were soon as busily employed in spreading the loose sand over it. The purple-heart-urchin which we now found, is larger and handsomer than the common one. It is of a deep purple colour, with pale spines. Some of the spines on the back are very long, corresponding well with the figure of it given in Professor Forbes' History of British Star-Fishes, &c. It was gratifying to find on it a few specimens of *Montacuta substriata*, which is well known to be parasitical on the purple-heart-urchin. This beautiful little bivalve was an addition to my cabinet of shells, as I had never seen it before. Why it chooses to nestle among the spines of the purple-heart-urchin I cannot tell; but undoubtedly there is some good reason.

All his works praise God, and every spine even of this prickly sea-urchin is fitted to lead us to say of Him who made it, How wonderful is he in working! Every spine is a piece of beautiful workmanship, especially if a section of it is examined by the aid of the microscope; and the pattern is so distinct in every species, that the species can be determined by a single spine. And then the spine is not like the thorn of a shrub, immoveable, for then it would not only have been much more apt to be broken, but would have been comparatively of little use; but it rests on a tubercle, on which it moves in the manner of a ball-and-socket joint, and is kept in its position by a fine membrane, which invests not only every spine, but the whole shell or integument of the animal. By the joint action of the spines and of retractile suckers, it can move from place to place in any direction, or moor itself to the surface of submarine



rocks. It may be seen before the spines are removed, but still better when the spines are removed, that it is divided into ten compartments by five double rows of minute holes. From each pair of pores protrudes a sucker, which is long, cylindric, and provided with a circular disk at its extremity, by which it can attach itself to any object, and can also climb perpendicular rocks. "The number of these suckers," says Professor Forbes, "is very great. In a moderate-sized urchin, I reckoned sixty-two rows of pores in each of the ten avenues. Now, as there are three pairs of pores in each row, their number multiplied by six and again by ten would give the great number of 3720 pores; but as each sucker occupies a pair of pores, the number of suckers would be half that amount, or 1860. The structure of the sea-urchin is not less complicated in other parts. There are above 300 plates of one kind, and nearly as many of another, all dovetailing together with the greatest nicety and the most admirable regularity. Truly the skill of the great Architect of Nature is not less displayed in the construction of a sea-urchin than in the building up of a world!" Moreover, "the calcareous covering of the sea-urchin," says our intelligent friend, Mr Paterson of Belfast, "exhibits a singular and beautiful contrivance for the progressive growth of the animal. It is not one piece, as the word 'shell,' so commonly applied to it, would lead us to suppose. It is formed of a multitude of pentagonal pieces accurately fitted together, some rows of them bearing the tubercles to which the spines are attached, and others pierced with hundreds of minute orifices, through which the

tubular suckers are protruded. A living membrane, analogous to that found in some of the Polyps, covers the entire surface, and dips down between the several plates. It has the power of depositing a calcareous secretion, which, being added to the edges of the plates, augments all in an equal ratio; and thus, whatever may be the size of the sea-urchin, the relative proportion of the several parts is uniformly maintained. It is impossible to contemplate the admirable mechanism of the spines, and suckers, and the elaborate structure of the shell, without at once feeling the conviction that in them we behold a portion of 'the works of the Lord, and his wonders in the deep.'

But much remains to be told of the wonders of this prickly orb. We shall only briefly mention the admirable structure of the mouth, referring for a full description as given by Professor Jones in his "General Outline of the Animal Kingdom." The fine polished, pointed teeth that project from the mouth form part of an apparatus for the prehension and mastication of food admirably fitted for these important purposes, and known by the fanciful name of Aristotle's lantern. In this lantern, besides the projecting teeth, there are strong grinding jaws, roughened like a millstone for the purpose, with muscular bands of great strength for regulating the motions of the jaws and teeth. The bony jaws and teeth form a conical body, about an inch and a half long, placed with its pointed end towards the great aperture at the base of the shell, and extending backwards into the body of the animal. "It is," says Professor Harvey, in his most interesting Sea-side Book, "attached by strong muscles to

five bony arches that surround the mouth of the shell, and several other sets of muscles serve to propel it forward, to cause it to retreat, to move the mass from side to side, or to cause the jaws to act one on another like pairs of millstones. The cone consists of five triangular pincers, or jaws hollowed out, with an opening down the centre in front, arched behind, and with the two sides flattened and finely grooved. In the hollow of the jaws is placed a large moveable tooth which plays up and down. When the cone is put together, the flat dressed surfaces of the five jaws, which stand round in a circle, are brought into contact. All the food that is received at the mouth must pass between these surfaces; and as there are systems of muscles which enable them to play up and down and across, a more perfect mill for grinding down the food cannot well be conceived." Any set of teeth fixed in sockets as ours are, would soon be worn down by the sharp and constant practice to which the teeth of the sea-urchins are called in grinding down the shell-fish, and the bones of marine animals, on which the Echini feed. It is therefore wisely so ordered that there is, as in the case of the gnawing animals, a continual growth at the roots, where they are soft with a silky lustre, whereas at the points they have all the hardness of enamel. "Their jaws," Professor Rymer Jones says, "from their great complexity, and unique structure, form perhaps the most admirable masticating apparatus met with in the whole animal kingdom."

The shelly integument of the sea-urchin is very commonly seen as a chimney-piece ornament even in the inland parts of the country, being brought as a curiosity from the shore

by those who return from sea-bathing quarters. It is a pretty and curious object ; but how few know that, when minutely examined, it is found to be constructed with such consummate ingenuity and skill, that man with all his boasted progress in the arts and sciences would not have the folly even to attempt to imitate this exquisite piece of workmanship !

Sea-urchins of numerous species seem to have abounded in the ancient seas, as their fossil remains in our cabinets testify. *Echinocorys scutatus* is a species very often found in limestone rocks in the north of Ireland. We have a pretty little specimen of it, which we value more in consequence of the curious way in which it was obtained. We may say that it was dredged, but who was the dredger ? It was a codfish. I got the fossil from my friend, Mr Underwood, at Moneymore, who assured me that his cook got it in the stomach of a large cod purchased at Coleraine. Many shells, and crabs, and star-fishes are found in the stomachs of cods and haddocks, but this was the only instance we have known of their dealing in the fossil line.

It would exhaust the patience of my readers were I also to enumerate the rare and beautiful shells we found. They are, however, objects of great interest ; and both the shells and their inhabitants, whether great or small, are well fitted to show forth the wonderful wisdom and goodness of the Lord. As above a hundred species were got now and on a former occasion, and as many of them were rare, I shall not venture even to make a selection. A complete list of them, however, shall be subjoined in the appendix.

But some of our readers, who like to hear of what can be turned to good account, may perhaps say, "Got you no fish when you were dredging?" Yes; I am happy to say we did get one fish—and that one was new to Scotland. "What was it, pray?" It was *Lepidogaster bimaculatus*! But long though the name be, I must own that the fish itself is not quite so long and large as a whale; so that our Scottish fishermen need not expect any additional hogsheads of blubber. Nay, it is not even so long as a haddock; so that the table will not groan under it when served up. "How long was it, then?" It was (for it was full-grown)—it was, . . . nearly . . . an inch and a-half in length! But though it may not furnish much nourishment for the body, it is our own fault if it yield not some food for the mind. It has an organ to be found in few of our British fishes; that is, a *sucker*, by which it can firmly adhere to other bodies. In general, this adhesive apparatus is on the under surface of the body. In one, however, it is on the crown of the head, and by this it has been found adhering to the haddock. God gives no organ in vain. It is probable, however, that this adhesive apparatus is for more purposes than we yet know of. But we see that it may be useful for support and for protection. The *Remora*, which has the sucker on the upper part of the head, has been found adhering to another fish; and it is thus wafted through the waves without any expenditure of its own strength. Others of them cling by it to rocks and stones; and this may afford protection, and may save them from being dashed to pieces in the storm. There is one kind, called the *Lump sucker*,

which, from its size and clumsiness, might be very apt to suffer in stormy seas, were not its power of adhesion very great. Pennant mentions, "that on placing a fish of this kind in a pail of water, it fixed itself so firmly to the bottom, that on taking it by the tail, the whole pail by that means was lifted up, though it contained some gallons, and that without removing the fish from its hold." Small, then, though the *Bimaculated Sucker* is which we found on this occasion, is it not well fitted to teach us a lesson of wisdom? Often is the believer placed, as it were, in troubled seas; but there is a rock which no storm can move. That rock is Christ. The little fish may be driven from its hold, and may perish in the storm; but let the believer, in the exercise of faith, cling to Christ, and he is perfectly safe in the greatest tempest; for not only has he a hold of Christ, but Christ keeps fast hold of him, and no power in heaven, or earth, or hell, can pluck the believer out of the Redeemer's hand.

We brought up several crabs, one or two of which were new to me; but it is often more generally interesting to dwell on what is common than on what is rare. The hermit crab (*Pagurus Bernhardus*) is common; it may be seen, by every person who makes use of his eyes, on the shore, as it is very often drifted when there is a breeze, and left by the tide on the sand. It is called hermit crab, because it takes possession of an old univalve shell, dwelling in the cavity as in a cell. In its young state it is often to be found in a little *Trochus* or *Silver Willie*, as the children call it; and when it is full size it ensconces itself in the

large *roaring buckie* (*Buccinum undatum*).\* The goodness and wisdom of God are seen in the instincts of animals. The hermit crab is like a little scarlet lobster, whose body and claws are defended by a strong crust, but whose hinder parts have but a thin covering. Knowing this, it thrusts its defenceless parts into the cavity of a shell ; and it takes care that the shell be sufficiently large as a place of refuge for the whole hermit in the time of danger. There is a foreign species in which the spirit of the soldier is combined with the seclusiveness of the hermit. It shows ambition, and courage, and pride. It may be seen contending with other free-booters on the shore for the largest shell ; and, having obtained the mastery, it proudly parades, with its palace on its back, in the presence of its unsuccessful competitors.

Many naturalists have observed that there seems to be a treaty of union betwixt the hermit crab and the *spotted sea-anemone* (*Antinia maculata*). I lately kept one of these pretty *sea-anemones* for some days in sea-water. It had fastened itself to a little fragment of a screw shell (*Turritella*), but its co-tenant in the inside was not a hermit crab, but a pretty red annelide. Be this as it may, certain it is that, on this occasion, we found that the *spotted anemone* had fastened itself to the outer lip of many of the large *roaring buckies* brought up, and wherever there was an *anemone* without, there we found a hermit within. In all likelihood they in various ways aid each other. The hermit

\* There are several species of *Pagurus*, so that the small ones may not always be the young of the large,

has strong claws, and while he is feasting on the prey he has caught, many spare crumbs may fall to the share of his gentle-looking companion. But soft and gentle-looking though the *anemone* be, she has a hundred hands, and woe to the wandering wight who comes within the reach of one of them, for all the other hands are instantly brought to its aid, and the hermit may soon find that he is more than compensated for the crumbs that fall from his own booty. Union is happiness and strength. "Behold how good and how pleasant it is for brethren to dwell together in unity ! It is like the precious ointment upon the head that ran down upon the beard, even Aaron's beard ; that went down to the skirts of his garments ; as the dew of Hermon, and as the dew that descended upon the mountains of Zion, for there the Lord commanded the blessing, even life for evermore."





## CHAPTER IV.

“ Ah, yes ! the sea is still and deep,  
All things within its bosom sleep !  
The night is calm and cloudless,  
And still as still can be,  
And the stars come forth to listen  
To the music of the sea ;  
They gather—gather—gather,  
Until they crowd the sky,  
And listen in breathless silence,  
To the solemn litany.”—*Longfellow.*

### WHITING BAY.

THERE is no romance in the name of Whiting Bay, nor has the place itself any of the grandeur of Brodick, Sannox, or Lochranza ; yet, as a pleasant residence, it is not inferior to any place in the island. Man has done little for it. It is not divided by trim hedges into regular parallelograms of waving crops. Near to the shore there is not much ground susceptible of cultivation. But the channel, where not reached by the tide, yields a fragrant crop of the little Scotch rose (*Rosa spinosissima*) ; while the embankment of little rocky hills, close to which the road winds, is adorned with shrubbery of Nature's

planting—oak, and birch, and hazel interspersed with hawthorns, honeysuckles, and trailing brambles; yielding in summer a rich perfume, and in autumn a tempting banquet of hazel nuts and jet-black bramble-berries. In spring, also, there is great sweetness and beauty; for the banks of every little rivulet that leaps among the rocks is bestudded with primroses, while every little glade of the copse presents a rich blow of wild hyacinth and of wood anemone. Here there is still that sweet seclusiveness which some may now desiderate amidst the gaiety of Brodick; while the outward or homeward-bound vessels, which are constantly passing near to the shore, remind you that you are not far from a busy, bustling world. Or if you wish to forget the bustle of the world, amid the deep recesses of the adjoining glen you may wander for hours with few tokens of living companionship, except the merry chirrup of the grasshopper, the sweet song of the feathered tribes, and the playful frisking of the lambs in their sportive gambols on the grassy slopes of the glen side. Happy he who, in such situations, is “never less alone than when alone.” Happy they who, in Nature’s solitudes, can trace the footsteps, and mark the handiwork of a benignant God, who, apart from the world, can hold converse with the Eternal, and rejoice in his promise of a purchased inheritance, where the Lamb shall lead them to fountains of living waters, and God shall wipe away all tears from their eyes.

The day on which we visited Whiting Bay was a delightful one; but as it was too hot for a long walk, we engaged a conveyance, which not arriving at the appointed time,

part of the forenoon was lost ; and after we reached Whiting Bay, some more of our time was occupied in visiting our old friends. A family from Port-Glasgow were the temporary occupants of one of the houses where we called. The greater part of them were at the time in a boat in the bay, wishing to bring ashore with them a fresh supply of fish. The fine whittings they had caught the day before had been nicely split up and placed on a board in the sun ; but when they were just about ready to be sent as a present to their friends, the cows coming round, devoured them all in a twinkling. We knew, however, before this, to our cost, that Highland cows are decided fish-eaters. This need not surprise us, when we know that the Arabs often feed their favourite horses with dried fish.

The geologist will not regard without interest the numerous trap dykes of various widths that traverse the coast at Whiting Bay, some of which intersect each other. The new red sandstone in contact with these dykes is often greatly indurated.\* Towards King's-cross Point the rocks assume somewhat of a columnar aspect. This is the case also at the magnificent cascade at the head of Glen Ashdale, where the greenstone cliffs which overlie the sandstone are imperfect columns.

\* The front of } Whiting Bay Free Church is built of white sandstone, the rest of red. Where was the white procured ? From the same place as the red. Both were quarried behind the church. Here a trap dyke traverses the sandstone. The contact of the trap has not only changed the colour of the sandstone, but also greatly hardened it in texture. When fresh from the living rock it was beautifully mottled. —D. L., Jun.

As the hours spent at Whiting Bay on this occasion did not yield much recordable matter, I shall fall back on the reminiscences of former years. In August, 1842, I spent several days there; and had more leisure for research. I was then visited by two distinguished naturalists—Mr Adam White of the British Museum, and Mr George Gardner, who had newly returned from Brazil, and who is now exploring the rich recesses of Ceylon. I had been initiated by him in the study of muscology before he went out to South America; and he now entered on botanical research in a Highland glen with as much zeal as if he had never explored the untrodden heights and depths of a foreign country. We searched in vain the hazel copses of Knockenkelly for *Epipactis ensifolia*—a rare and beautiful plant. I had often seen it in that locality; but the flowering season was over, and it had died down. Neither could I find *Thalictrum flavum* (meadow rue), which, years before, I had seen at Largiemore. Nor could we discover any remains of *Typha latifolia* (Great Cat's Tail), which once grew abundantly in the mill-dam. This is an interesting plant, rendered very conspicuous by its long black catkins. In Canada, where it is much more common, the fine black down on its long cylindrical head is plucked off and used in beds instead of feathers; and I doubt not that it would make a very comfortable couch.

The most delightful part of our ramble was up Glen Ashdale, being sweetly secluded, especially in the neighbourhood of the water-fall, which is the finest in Arran. There we got some good mosses—the rarest of which were *Hookeria lucens*, and *Funaria Muhlenbergii*, both of which I had

before got on the cliffs betwixt Catacol and Lochranza. I was not a little pleased to observe, on the steep bank which overhangs the waterfall, a striking instance of the instinctive search of plants after food and support. A young alder tree had grown on a little projection of the declivity, where the earth underneath had on one side crumbled away. It had struck its roots into the bank above ; but on the side of the projection fronting the waterfall, there was an empty space of about five feet ; so that on this side, for want of roots, there was a lack both of nourishment and support. Even though it had grown in spite of the scanty supply, it must have brought down the projecting bank by its increasing weight. The tree had evidently felt how critical the circumstances were in which it was placed ; and it was doing its utmost to procure food and to avert threatened ruin. It had pushed roots straight downwards like leafless, fibreless rods : they were already within half a foot of the bank below ; and each rod was beginning to divide and spread in the form of roots, that, striking into the earth, they might not only derive nourishment from the soil, but might form supporting pillars to the tree, on which it would be borne up, even though the earthy ledge on which it had grown should altogether crumble away. Hoare, in his Treatise on the Vine, mentions that a bone being placed in the strong clay of a vine-border, the vine sent out a leading or tap-root through the stiff clay, till it reached the bone. In its passage through the clay, this main root threw out no fibres ; but when it reached the bone, it went no farther, but gradually covered the bone with delicate fibres like lace,

each fibre entering a pore, and sucking out the luscious nourishment. He who formed the alder and the vine taught the one instinctively to cast forth its roots for distant food, and the other to strike its tap-roots downwards through empty space, to form pillars of support, and also to draw up additional nourishment. He offers to us angels' food for spiritual nourishment; and while he tells us of approaching danger, in which every earthly prop shall fail, he points out to us a Rock on which we may with safety lean, amidst the war of elements and the wreck of worlds!

Mr White took with him to London a well-filled *vasculum* of Arran plants; but he was more intent on insects, and on the living productions of the sea. Arran is a very rich field for the entomologist. He carried with him to London, for the British Museum, some good zoophytes, found on stones, and shells, and sea-weeds; also a variety of *Echinus lividus*, found in pools among the trap dykes. I found, while at Whiting Bay, some good specimens of the branched variety of *Antennularia*, and what I prized much more, *Plumularia myriophyllum*, or the Pheasant's Tail Coralline. What rendered the specimen peculiarly valuable was, that it was enriched with vesicles, and the only instance in which the vesicles of this zoophyte have been observed. It attracted the attention of the fisherman, who brought it home to his wife; and she being a person of taste, admired it still more than her husband did. With all due care she planted it in an old tea-pot, filled with earth; and watering it with fresh water every morning, she had the satisfaction of thinking that it grew a little larger under her management!

Some time after this, an intelligent fisherman brought me something that was quite new to me. He had got it on his long lines in the deep sea betwixt Arran and the Ayrshire coast. I immediately plunged it into a jar of sea-water. After some time it began imperceptibly to expand. At length rows of polypes pushed out their heads and unfolded their beautifully-ciliated tentacula. I then knew that it was a zoophyte, and suspecting that it was *Pennatula phosphorea*, I turned up the figure and read the description of it in my friend Dr. Johnston's excellent work on British Zoophytes; and I was glad to find that it completely corresponded with both. Fishermen call it Cock's-comb, and it is not unlike the scarlet head-gear of that warlike bird. Its more common name among naturalists is *Sea-pen*, which is still more expressive of its form. It was about three inches in length, of a purplish red colour, and a little bent upwards. In the evening I took it into a dark room with me, to see whether it merited its specific name. Linnæus speaks of Sea-pens covering the bottom of the sea, and casting such a light that you may count the shells. I touched it in the water, and tossed it from side to side in the jar, but all remained dark. I then took it out of the water and gave it a good shake, and it immediately resented the insult by a phosphorescent flash of indignation. I learn, from Professor Fleming's British Animals, that it is not uncommon on the east coast of Scotland. Is it found either in England or Ireland? The only localities mentioned in Dr Johnston's British Zoophytes, are Scottish. Mr W. Thompson, in his valuable "Report on the Fauna of

Ireland," says, "A specimen once brought to me from Belfast market, was stated to have been found among had-docks sent from Glasgow, and most probably captured on the west coast of Scotland."

Who can be on the shore without admiring the sea-shells? God teaches their inhabitants to form, and fashion, and paint them in a way which man, with all his boasted taste and skill would in vain attempt to imitate. Let us touch a little on one of them, *Bulla lignaria* (*Scaphander lignarius*), found at Whiting Bay by digging in the sand at ebb tide. It is not easy to give a description of this elegant univalve. It is oval, convex, and slightly spiral, like a thin plate, pretty closely rolled up at one end, and only half rolled up at the other. Inside it is china looking, and outside it is like wainscot. It is nearly two inches in length, and at the broadest about an inch and quarter across. Never did lady recline on a more tasteful couch. The internal structure of this well-lodged mollusc is deserving of our regard. As the inhabitant of the *Bulla* is as soft as a slug, one would think that it would feed on something as soft as jelly. Instead of that, it swallows entire the fry of another creature, with a shell as hard as its own. This shell-fish is *Mactra sub-truncata*; called in the Lowlands *Aikens*, and in the Highlands *Murech baan*; *baan* denoting the colour, which is white; and *Murech*, it is probable, being the Celtic origin of the Latin *Murex*, the shell-fish which yielded the Tyrian dye, or imperial purple. But how can the soft *Bulla* feed on this hard food? Though it has no teeth it has an equivalent—a gizzard formed of shell as hard as bone, and



composed of two valves, or rather millstones. These millstones are bound together with a very strong ligament, leaving only an opening to receive the food. As soon as the young shells are swallowed, they come under the power of the two millstones, which crush, and grind, and reduce them and their living contents to paste—in which state they enter the stomach. This stomach is capacious, in the form of a sack of meal bound at the mouth; and in this deep sack the paste remains, till it yields its substance for the nourishment of the voracious *Bulla*. Various are the methods by which the Lord enables his creatures to supply their wants. He has given sharp teeth to fishes and quadrupeds, and hard bills to birds; but though the *Bulla* has neither tusks nor beak, He has furnished it with a gizzard which still better answers its purpose.

After spending an hour or two pleasantly at Whiting Bay on the present occasion, we set out to walk to Lamlash, about five miles distant. The day was lovely, and when we came to the bridge over the rivulet which separates Whiting Bay from King's Cross district, we could not but seat ourselves on the parapet wall, to listen to the murmuring of the stream amongst the stones, and the sweet warbling of the feathered songsters in the richly tangled copsewood with which the rocky banks of the burn were adorned. It was not the eye nor the ear alone that was feasted. I never saw the hawthorn in greater beauty; and the fragrance sent forth by it and its sweet kindred on this natural rockery, was not inferior to Sabeian odours wafted by the breeze from Araby the Blest. And yet more heavenly music is at times

heard, and a sweeter savour at times pervades the glen ; for near to this the Free Church tent\* is placed, reminding one of the days when it was not safe even to pitch a tent, and when under the open canopy of heaven the persecuted remnant worshipped.

“Fast by such brooks  
A little glen is sometimes scooped—a plat  
Amid the heathery wild that all around  
Fatigues the eye : in solitudes like these  
Thy persecuted children, Scotia, foiled  
A tyrant’s and a bigot’s bloody laws.  
There, leaning on his spear, . . . .  
The lyart veteran heard the Word of God  
By Cameron thundered, or by Renwick poured  
In gentle stream : then rose the song, the loud  
Acclaim of praise ; the wheeling plover ceased  
Her plaint, the solitary place was glad,  
And on the distant cairns, the watcher’s ear  
Caught doubtfully at times the breeze borne note.”

After leaving the bridge, the walk for about a mile is over a barren moor ; but this only prepares a person the better for one of the most magnificent views to be seen, even in Arran. When you have got within a mile and-a-half of Lamlash, there is a sudden burst of mingled grandeur and beauty. From this height you have the noble Bay of Lamlash, as it were at your feet ; with the Holy Isle, like a great floating cone, guarding its entrance. Beyond the bay you have, in the foreground, Dun Fion and other hills of moderate height ; and in the background Goatfell and the more northern mountains of Arran, as well as the Cumbraes,

\* Now there is a Church.—D. L., Jun.

and Bute, and the Argyleshire mountains terminating the magnificent prospect.

When I said there was nothing interesting in the first part of the walk through the King's Cross district, I should have added—except to naturalists; for to them every place furnishes a banquet, and the most unpromising places, to appearance, are often to them the most productive. In passing through this dreary moor at this time, I was on the outlook for an old friend that I had pointed out to Mr White three years before, as one whose ingenuity I much admired. The Free Church people, in pitching their tent in the neighbourhood, might have done worse than take a lesson from him in tent-making. He had pitched his tent by the way-side. The material of which it was formed was finer than silk, and yet sufficiently strong to stand the pelting of many a storm. The tent consisted of two apartments—a lower and upper storey. Do you wish to know the name of this ingenious artist? Mr White would speak of him under his learned or travelling title—*Epeïra*; but he is better known to me under a familiar but ill-favoured name, and therefore I must reluctantly announce him as a large—*spider*! “The spider is in kings’ palaces;” and kings and queens too may learn a lesson from it, and so, surely, may we. Spiders have not got justice done to them: they are a much more interesting race than many suppose. They improve on acquaintance: the better they are known the more they are admired. Mr White has studied their history, and has corresponded with the most distinguished arachnologists. At that time a

whole colony of them were encamped by the roadside, within the compass of half a mile. As he was rather a gigantic spider, his tent, instead of being on the ground, was elevated, like the house of a giant of whom in early life we have all read. It was built on the tops of the common grass, *Holcus lanatus*, more than a foot above the ground. Had he built his house on the top of one stalk of grass, the house and its inhabitant might have borne down a single slender stalk. But he had contrived to bring together several heads, whose roots stood apart, and, with cordage which he could furnish at will, had bound them firmly together, so that his elevated habitation was anchored on all sides. From whatever *airt* the wind blew, it had at once hawser and stay. Not only did he bind the heads together, but he bent, doubled, and fastened them down as a thatch roof, under which his habitation was suspended. As he was a larger spider than usual, his house was large, the more capacious apartment, which I believe was the nursery, being below; and the smaller one, which was his observatory or watch-tower, being above, from which he could pounce on his prey, or, in case of hostile attack, could make his escape by a postern gate, so as to conceal himself among the grass.

During a visit in June last, I was anxious, as we returned from Whiting Bay, to ascertain whether this interesting colony of tent makers was still in a thriving state; and not seeing any at first, I began to fear that a Highland clearance had taken place. When I at last discovered a few of them, I saw that, as there are times of low

trade among our industrious two-footed artisans in towns, so are there occasionally hard times among our six-footed operatives in the country. The field in which they encamped had, I suppose, been overstocked. The stately *Holcus* had been eaten down; but these shifty children of the mist had availed themselves of the heather—doubling down the tops of some of the heath-sprigs, and under this thatched canopy forming their suspension-tabernacles. As yet, however, it was too early in the season. The house had only one apartment; the web of which it was formed was as yet thin, and therefore not easily perceived except in early morn when its gossamer threads are strung with dew-drops, arranged as close as beads upon a string, while, in the rays of the sun, each of the minute drops sparkles with the colours of the rainbow. Through the fine web I could see the spider which, being but half grown, had not yet got in perfection its fine tiger-like markings. “Go to the ant, thou slug-gard;” go also to the spider. He who taught the one taught the other; and, learning humility, let both teach thee.

I said that kings might learn of the spider; and one of the greatest of our Scottish kings, some five hundred years ago, disdained not to learn of an Arran spider in the very district in which this spider is found. The tradition still lingers in Arran, that King’s-cross-point was so named, because from this point in Arran King Robert the Bruce sailed for Carrick, his own district in Ayrshire. When he was, by a train of adverse circumstances, almost driven to despair, it is said that after a sleepless night, in a humble

cot on this rocky point, he in the morning observed from his lowly bed a spider actively employed in weaving her silken web. To make it firm and extensive, she endeavoured to fasten her filmy threads on a beam projecting from the roof, but in attempting to reach this beam she fell down to the ground. Six times she repeated the attempt with no better success, but instead of being discouraged, she made a seventh attempt—reached the wished-for point, fastened her adhesive cords, and went triumphantly on with her work. On observing this, the king sprang up with reviving hopes and fresh resolution. “Shall I,” said he, “be more easily discouraged than this reptile? Shall she, in spite of repeated failures, persevere till crowned with success, though her object is to enslave and destroy? and shall I leave anything untried that I may deliver from thralldom my oppressed subjects?” He hastened to the beach, launched a fishing-boat, sailed from *King’s-cross-point* for Ayrshire, which he reached in safety—secretly assembled his liege men in Carrick—made a bold, and sudden, and successful attack on his own castle of Turnberry, which he took from the vanquished English garrison; and, following up this auspicious blow, he advanced on the tide of victory till, at Bannockburn, he drove the cruel invaders from the land, and set once more our beloved Scotland free.



## CHAPTER V.

“ Now morn, her rosy steps in the eastern clime  
Advancing, sowed the earth with orient pearl.  
Awake ! the morning shines, and the fresh field  
Calls us. We lose the prime, to mark how spring  
Our tender plants, how blows the citron grove ;  
What drops the myrrh, and what the balmy reed ;  
How nature paints her colours—how the bee  
Sits on the bloom extracting liquid sweet.”—*Milton*.

IT was now the 13th of June. Our happy week in Arran was drawing fast to a close, and we were resolved that none of it should be lost in sloth. One of my daughters was to leave us this morning by the steamer to visit friends in Port-Glasgow ; and, as we meant to accompany her in the steamer to Brodick, we were all astir by five o'clock in the morning, and, ready, after an early breakfast, to go aboard at six o'clock. The morning was most lovely. How many of those most capable of enjoying it lose, throughout life, all the beauty of this “ hour of prime ! ” It is said that Thomson wrote *in bed* these fine objurgatory lines :—

“ Falsely luxurious, will not man awake,  
And, springing from the bed of sloth, enjoy  
The cool, the fragrant, and the silent hour,  
To meditation due and sacred song ? ”

It may be so ; but if the following lines *were* written *in bed*, they are so true to nature that they must have been the transcript of what he had formerly seen in a morning walk :—

“ The meek-eyed morn appears, mother of dews,  
At first faint-gleaming in the dappled east ;  
Till far o’er ether spreads the widening glow,  
And, from before the lustre of her face,  
White breaks the clouds away. With quickened step  
Brown night retires ; young day pours in apace,  
And opens all the lawny prospect wide.  
The dripping rock, the mountain’s misty top,  
Swell on the sight, and brighten with the dawn.  
Blue, through the dusk, the smoking currents shine,  
And from the bladed field the fearful hare  
Limps awkward ; while along the forest glade  
The wild-deer trip, and, often turning, gaze  
At early passenger. Music awakes—  
The native voice of undissembled joy—  
And thick around the woodland hymns arise.”

Though not one of the seven sleepers, I must own that I am not always a-foot at cock-crowing. The inducement on this occasion was sufficiently strong. The morning was lovely as heart could wish ; the scenery was exquisite ; and had we had nothing but the sail to Brodick we would have considered ourselves amply rewarded. The sea was a mirror, reflecting from its bosom the Holy Isle, and the only vessel that, after the late storm, yet lingered in the refuge-yielding loch. Where was the storm now ? Is it possible that the smiling sea, murmuring and sporting in softest rippings on the shore, was lately a scene of strife and turmoil—dashing itself, as if in bitter rage, against the stubborn rocks by which its proud waves were



stayed? He who ruleth the winds and waves had said to them, "Peace!" The storm sank into a calm—the waves were still. From the steamer's deck we could count the pebbles scattered on the sand at some fathoms' depth, and could see the finny tribes disporting amidst the little marine forests of algæ, gently waving in the ebbing tide.

On reaching Brodick we had leisure, in waiting for the little boat that was to land us on the quay, to contemplate the noble scene—above, and around, and below. I am seldom on the sea; but when there, I am unwilling to pass unnoticed the wonders of the deep. Oh! how full of wonders is that mighty deep! When we see the Lord's wonders in the deep, may they so utter their voice as to teach us to look up unto the heavens for greater wonders there! Some have a great knack at drawing useful lessons from the mute inhabitants of the deep. It was at Brodick that Mr James Wilson, a distinguished naturalist, observed one morning two men in a boat looking down intently into the water, and from time to time pulling something rapidly up. His curiosity was excited; and, on inquiring into the nature of their employment, he found that they were fishermen catching crabs in an ingenious manner. When through the clear water they saw a crab at his morning walk, they touched him with a long pole, and instantly the crab grasped the pole with his claws; they gave another pounce, and he grasped more firmly; they gave a harder jog, and, out of all patience, he clasped the pole with all his claws; and forthwith, ere his paroxysm was over, they hastily drew up the pole, and landed him in the bottom of their boat. The

moral inference which Mr Wilson draws is, "I saw from this that it was not safe for either crabs or Christians, when exposed to provocation, to lose their temper."

The Castle garden is worth being visited; for, though it contains nothing that is very rare, it is delightful to see the healthy luxuriance of many rather tender exotics, which brave the winter without any protection, giving good proof of the great mildness of the insular climate. There were some rare mosses at one time on the walls of the Castle; but the improvements that are going on may strip them of their mural treasures. *Parietaria officinalis* may escape, I hope, being of sturdier make than the mosses. This *Pellitory-of-the-wall* I have seen, in the west, only on Brodick Castle-wall, and on a parapet wall at Troon harbour. Its filaments are jointed, and to this peculiarity they owe the elastic property by which, in a hot summer-day, the *pollen* is so copiously discharged. The filaments of the mulberry flower must have some such peculiarity. I remember on a fine summer-day, seeing in the garden at Whitehouse, a fine mulberry tree, from various parts of which little puffs of powdery vapour burst from time to time. I found that it was occasioned by a filament being let loose with an elastic spring, which caused the pollen of the concussed anther to ascend about two inches like smoke, that it might come down like a fertilizing shower on the subjacent pistils, which, as the mulberry is a monœcious plant, are on different flowers from those that have the anthers, and, but for this beautiful contrivance, might not receive the pollen.

Passing the Castle, we proceeded northward towards

Corrie. A person does not require to leave the road to find what to many might be more rare than pleasant, viz., poisonous adders, which come out of the wood to bask in the sun. These, I think, have been reduced in number, since Brodick became so much frequented; for, some years ago, a person could seldom pass along this road on a fine day without seeing an adder, either dead or alive. But the botanist may find, close by the road-side, what is more to his taste—the beautiful little *Pinguicula Lusitanica* (pale butterwort), so much valued in many places. There is another plant very common at Brodick, which, I am told, is greatly prized by foreign botanists, viz., *Brassica Monensis* (Isle of Man cabbage); and what is more beautiful than either—*Lithospermum maritimum* (sea-side gromwell), of which there are splendid tufts on the beach. *Parnassia palustris* (grass of Parnassus), is very frequent here, with its fringed nectaries. Two kinds of *Drosera* (sundew) may be found at no great distance, with their singular leaves clothed with viscid, insect-catching glands, sparkling in the sun like brilliant diamonds. Plants acquire an additional value, as memorials of friends with whom, in collecting them, we have made little excursions. Well do I remember with what eagerness I grasped, near this place, a large tuft of a magnificent moss, rare in Scotland—*Splachnum ampullaceum* (flagon-fruited splachnum); and what delight I had in dividing the spoil with my two companions who could appreciate it—Dr. Curdie, now in Australia, and Dr Philip Maclagan, from Edinburgh, now in Canada; still fond of Natural Science, but interested

also, I am happy to say, in what is better than Natural Science. And *Erythræa compressa* of Link, found plentifully on the shore, reminded me of the pleasure of meeting the learned and venerable Prussian Professor Link on a memorable day in Arran. Many fine ferns are found on the cliffs which form the ancient boundary of the sea, of which I shall mention only the stately *Osmunda regalis* (the royal fern), and the lowly *Hymenophyllum Wilsoni*, neither of them uncommon in Arran.

On betaking ourselves to the shore our chief look-out was for a rare sea-weed, and for a rare and very beautiful and singular sea-animal. A year before I had discovered the alga in a little rocky pool of sea-water, near the base of Maol Donn. As it seemed new to me I laid hold of it, but found it no easy matter to detach it from the rock to which it firmly adhered. It turned out to be *Codium tomentosum*, not rare, I believe, in either England or Ireland, but so rare in Scotland that I have heard of its being found only by Dr Curdie, in the Island of Gigha, off Kintyre, and by William Thompson, Esq., Belfast, in a rock-pool near Ballantrae, in Ayrshire. On taking it out of the water, I observed a greenish gelatinous animal on it, which, without examination, I cast into the pool again, that it might continue to enjoy life. I afterwards saw on the *Codium* two more of the same species, but considerably smaller; and observing that they were beautifully mottled with azure spots, I deposited them in my *vasculum*, among the branches of the *Codium*. When, on reaching home, I put them into a tumbler of sea-water, I saw that I had got a rare and

beautiful mollusc, discovered by Colonel Montagu on the Devonshire coast, and described by him in "The Transactions of the Linnæan Society." As I kept the *Actæon* for nearly a week in the tumbler, where it seemed to browse with great satisfaction on the woolly beard of the *Codium*, I had good opportunities of observing it, and I found it even more beautiful than I could have supposed. Its colour is green—betwixt grass-green and bottle-green; but in certain lights it has a considerable shade of rich puce-colour on the finest velvet. It is beautifully dotted with azure and with gold. The azure spots are small and numerous on all parts of the body and of the fins, and are precisely of the same brilliant azure as the lines on *Patella pellucida*. The golden spots were confined to the upper parts of the body. They were few in number, but considerably larger and less regular in form than the azure dots. Two of them, for instance, were oblong, and extended from the ear-like tentacula down to the eyes, which were placed on the back of the neck, as if to keep watch against the enemies from behind, while it was busy feeding on the rich pasture afforded by the green *Codium*.

The membrane that acts as fins is of the same colour and substance as the body. When the fins are raised and meet above, they give it the appearance of being gibbous on the back. More generally, however, they are a little apart from each other, and in swimming they extend horizontally from the body, and show, at the base of the neck, betwixt the upper part of the fins, a whitish protuberance. At the base of each fin, and pretty close to the back, there could be

seen, when the light was favourable, all along the inside, a line like the mid-rib of a leaf ; and from this double mid-rib there proceeded, at intervals, veins in a slanting direction to the upper margin of each fin ; so that when the two fins were expanded, it was like a green-veined leaf. To this appearance it may at times owe its safety, by deceiving the eye of prowlers. Could I transfer to the printed page a coloured drawing of it by my daughter Margaret, a single glance would give a better idea of it than all my words ; though still we would be constrained to say : “ Who can paint like nature ? ”

This brief quotation from the poets of the seasons suggests to us an answer to those who may be ready to say : “ What trifling ! why such a fuss about a painted pea slug ? ” If God painted it, should not we admire it, and adore Him by whom it was arrayed in so much beauty ? He made all things for his own glory ; and if this tiny mollusc, like a floating emerald, has not before attracted the gaze of any eye in Scotland, this is a reason why we should admire it the more when seen, and give glory to Him who deigned to adorn it. Millions of them may have lived and died unnoticed by man ; but as they enjoyed all the happiness of which they were susceptible, they were not created in vain. But they answer a nobler purpose, if they lead up the thoughts of even one human being to nature’s wonder-working God, bringing some small tribute of glory to the benignant Creator, and exciting thoughts which may be remembered with pleasure when the sea and all that is in it has passed away !

God's creatures are not to be despised because they may be small ; for by the least of his creatures he can accomplish great and wonderful works. How small are the coral polypes ; and yet, under the teaching of God, they plant the sea with islands, and build reefy walls which ocean's proudest waves cannot demolish !

We were now advancing toward Corrie. Had our time permitted, gladly would we have lingered about a place for certain reasons very much endeared to me, and which I cannot visit without mingled feelings—those of a mournful kind, however, having the predominance. There, in earlier life, I for a time sojourned with a beloved invalid, brought thither in a state of the greatest weakness, but who, by God's kind blessing on the change of air and scene, returned convalescent, ere many weeks had elapsed, to her lowland home, of which for years she continued to be, of all created things, the chief light, and joy, and charm. But how evanescent are our earthly joys ! How soon the clouds return after the rain ! The place that knew her knows her no more. The grave has opened and closed. But has not heaven opened also to receive what cannot die ? And is not the grave a quiet resting place to the bodies of the ransomed, till, at the voice of Christ, they come forth, no longer frail and mortal, but fashioned like unto Christ's glorious body, to be the everlasting residence of glorified immortal spirits ? In revisiting scenes which had been gladdened by the presence of those most dear to us, but who now have no part in all that is done under the sun, we surely should be reminded that we are fast journeying to the house appointed

for all living ; and surely we should be incited to follow Jesus, that we may be guided by him to his kingdom of glory, there to meet with those with whom we delighted to take sweet counsel on earth, and to share with them in happiness which is inconceivably exquisite, and permanent as the source from which it flows.

“ Friend after friend departs ;  
     Who hath not lost a friend ?  
 There is no union here of hearts  
     That finds not here an end ;  
 Were this frail world our final rest,  
 Living or dying, none were blest.

“ There is a world above,  
     Where parting is unknown—  
 A long eternity of love,  
     Formed for the good alone :  
 And faith beholds the dying here  
 Translated to that glorious sphere !”—*Montgomery.*

When not far from Corrie, in a rock-pool my son David found a rare sea-weed, *Gloiosiphonia capillaris*, this being the only known habitat of the plant in Scotland, except one. It is rare in Ireland, and still more rare in England. A year or two ago it had been found by me in Saltcoats Bay. I had observed it at low-water, in a little channel betwixt two rocks, as I was retreating with all convenient speed, lest I should be circumvented by the returning tide, as I had been some days before. In my haste, I snatched only a small portion from a large plant of it growing on a bed of shale, thinking that it was some common thing, with rather an uncommon aspect. On floating it in fresh-water, spread



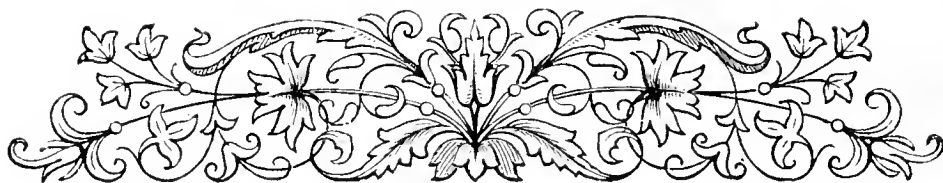
ing it on paper, and exposing it to the air, it changed in a short time from a dull brownish-red to a fine bright crimson. I then found that it was not an old friend with a new face, but an *alga* of great beauty, which was new to Scotland, viz., *Mesogloia*, now *Gloiosiphonia capillaris*. Next season it was found in considerable abundance in the same locality, in shallow water; but from being too much exposed to the light, or to some other cause, it had lost much of its fine crimson colour. My son, by wading into deep water and catching the plants with his toes, got fine specimens, which on being plunged in fresh-water, and then exposed to the air, assumed the rich crimson hue.

If some can find sermons in stones, and good in everything, may not we extract lessons even from *weeds*. The prescribed address of a certain order of monks in meeting each other is: "*Il faut mourir, mon frere*;" and the regular response is: "*Oui, mon frere, il faut mourir!*" The "*il faut*" (the *must*) shows that Death naturally is anything but welcome. But since he *will* come, however unwelcome, and since he *may* come at an inconvenient season, when we are ill prepared for receiving him, should we not consider whether it may not be so ordered that death, instead of being met with reluctance, may be hailed as the harbinger of a blessed change? This very *alga* which has been under our consideration, when living in its submarine habitation, is but an ungainly weed; and when torn from its native rock death ensues. Yet it is only then that its worth appears. Then only it becomes permanently beautiful, when it is clothed in the unchangeable loveliness of death.

If death is to make a change for the better on thee, gentle reader, instead of saying mournfully, “We *must* die,” are you not ready to say, “I would not live alway”—“willing rather,” yea, “having a desire, to depart and to be with Christ, which is far better?” It was a mystery hid from ages, how the merciless king of terrors might be converted into a friend—how, by dying, the happiest and loveliest of human beings may become for ever unspeakably more happy and lovely. The mystery is over—the secret is divulged. The Volume of Inspiration reveals it. If thou believest in Jesus, the change which death effects is unspeakably for the better. The earthly house of this tabernacle dissolves; but thou shalt have “a building of God, a house not made with hands, eternal in the heavens.” “Thou shalt hunger no more, neither thirst any more, neither shall the sun light on thee, nor any heat; but He who is in the midst of the throne shall feed thee, and shall lead thee to living fountains of waters, and God shall wipe away all tears from thine eyes.”

At Corrie there is a rich quarry of mountain limestone, about twenty feet in thickness, including the alternating beds of red shale. It is wrought in the direction of the dip, and is used in the island, and exported for architectural and agricultural purposes. Carts go along the cavernous passage, to remove the limestone as it is quarried. It is now worked far into the bowels of the mountain, but I have forgotten how far, though I went to the termination of this subterranean passage. This limestone abounds in fossils, the chief of which are, *Productus Scoticus*, *Productus giganteus*,

*Spirifer striatus*, *Cardium alæforme*, *encrinites*, &c. Several trap dykes penetrate the limestone, and where they come in contact with it, produce considerable induration.



## CHAPTER VI.

“Dead is the silent sea ?  
Smite but with sudden stroke the darkened prow,  
And flash refulgent from the gloomy deep,  
Will tell that myriads of the finny tribes,  
In silver shoals are wantoning around.  
Dip but an oar into the briny main ;  
And straight the oar drops diamonds, and the sea,  
Though when unwounded and untroubled, dark  
Now shines like furnace full of molten gold.

*Dr Landsborough.*

I HAVE reserved for a separate chapter the account of the greatest of the treats we had in this lovely summer morning's walk. It was our falling in with a whole fleet of *Beroës*. And what is a *Beroë* ? It is a living creature ; and in Professor Fleming's "British Animals" it is ranked among *Radiata acalepha*. As astronomers give classical names to planets, and stars, and constellations, from their imaginary resemblance, in some respect, to some person, or animal, or inanimate object, such as Saturn, Jupiter, Venus, the Ram, the Bull, the Lyre ; so naturalists, in imitation of astronomers, often give classical names to the animals they

describe. Now, *Beroë* is mentioned as one of the sea-nymphs by Virgil in the striking fable of *Aristæus* and his bees ; and were it justifiable thus, as it were, to honour heathen mythology, we would say that the name is well chosen ; for our *Beroë* corresponds to the description given by Virgil of his sea-maid :—

“Clioque et *Beroë* soror : Oceanitides ambæ,  
Ambæ auro, pictis incinctæ pellibus ambæ.”

“Clio and *Beroë*, from one father both,  
Both girt with gold, and clad in party-coloured cloth.”

This description was still more applicable to another species afterwards found, though this one was at times entitled to it, from the golden iridescence of its hues. The *Beroë* now found was not unknown to me, but it was new to my young companions, who beheld it with much interest. It requires a practised eye readily to detect this fragile diaphanous creature. It is not very rare in the Frith of Clyde ; but it must be rare in some of our seas ; for a first-rate naturalist, who is acquainted with almost all the creeping creatures, and all the floating beauties of the deep, mentioned to me that it has never been his good fortune to find a *Beroë* ; and Dr Fleming, at the time his “British Animals” was published, seems to have seen but one specimen, though I know that he is now acquainted with five or six species. The first I ever saw was caught in a gauze net by Professor Edward Forbes, when he and I were with Mr Smith of Jordanhill in his yacht, the *Amethyst*, in the Kyles of Bute. Having thus learned to be on the outlook for them, I found them afterwards in tranquil creeks at Millport

and at Ardrossan. I was going to say that it is one of the most beautiful and interesting of the little inhabitants of the deep ; but so many of the dwellers in the deep are beautiful and interesting, that the one under consideration at the time is apt to be regarded as the most attractive. This, however, is not a bulky beauty—not of the Dutch make ; for it is only about an inch and a quarter in length, and three-quarters of an inch in diameter ; and it is almost as transparent as the limpid element in which it floats. It is, I believe, the *Beroë ovata* of Fleming.

Our *Beroë* was egg-shaped, and divided into equal compartments by eight longitudinal ribs. It consisted of pellucid gelatine, so that it was like a floating egg of fine crystal. But the most wonderful part of the animal is the ribs, which are tubular, and through which streams of water are continually flowing. They are also closely set externally with fine *cilia*, upwards of a hundred on each rib ; so that when it wishes to move, these *cilia*, like a thousand paddles, are instantly in a state of the most rapid motion. At first we observed only one, which, lifting cautiously in some water in the hollow of the hand, we dropped into a little rock-pool, where we could better observe its evolutions. We could then inspect, not only its external workmanship, but also its internal machinery ; for it was so transparent, that we could see into its very core. Alas for us frail mortals, if our neighbours could see into our hearts ! But though *they* cannot, we should not forget that there is One who not only can, but does, search all hearts, and who understands all the imaginations of the thoughts, “ He

who formed the eye, shall He not see ?” He that made the heart, shall He not know all that passes therein ? When we reflect on this, well may we humble ourselves in the dust, and cry, “Behold, we are vile ; what shall we answer thee ?” Lord, be merciful, to us sinners ; behold us in the face of thine Anointed ; blot out our iniquities, and accept us in the Beloved.

Though at first we observed only one solitary *Beroë*, we had not gone far till we found them in abundance. In one little creek there was a flotilla of fifty. What life—what beauty—what happiness, in that little fleet ! Fifty thousand paddles, of exquisite workmanship, were in rapid, noiseless motion, twinkling with all the iridescent beauty of the morning dew. I had not before observed this lovely iridescence ; and I ascribed it in part to the more favourable inclination of the sunbeams at this early hour.

“Now morn, her rosy steps in the Eastern clime  
Advancing, sowed the earth with orient pearl.

Awake ! the morning shines, and the fresh field  
Calls us. We lose the prime, to mark how spring  
Our tender plant ; how blows the citron grove ;  
What drops the myrrh, and what the balmy reed ;  
How Nature paints her colours ; how the bee  
Sits on the bloom extracting liquid sweet.”—*Milton*.

We are no longer in Paradise ; we are not even the inhabitants of Eastern climes ; but we have no cause to murmur. I question whether odours fresh from Araby the Blest were ever more delightful than those wafted by the zephyrs from a blooming bean-field ; or whether the rich perfume of

citron or cinnamon groves ever surpassed the fragrance arising, after a shower, from a birchen copse, intermingled with hawthorn, and honeysuckle, and sweet-smelling eglantine. Was ever hum of Hyblæan bees happier or more peace-speaking than that which arises from the sunny side of a Highland hill, clothed for miles with wild thyme and purple-blooming heather? Though tropical birds have gayer plumage, can they equal in song our cheerful mavis, our mellow merle, or the happy heart-fraught hymn of the soaring sky-lark, pouring, as she soars, a flood of song in at the gates of heaven, and down on the inhabitants of the earth? saying, it may be, to subjacent mortals, "Sit loose to the earth; seek your home in the sky." It is during the hour of prime that the feathered warblers delight to raise their matin song. Were we oftener to hear them in that fresh and tranquil hour, we might be more disposed to rival them by singing, with grateful hearts, songs that were once sung in Zion, and which are still listened to with pleasure by Zion's glorious King.

The beautiful little *Beroë* which sparkles amidst the waves should be beheld by us with interest and with affection when we remember that our heavenly Father made it, sustains it, and has so adorned it with prismatic radiance, that, like a floating fragment of the covenant-bow, it seems, though mute, expressively to say: "The hand that made *me* is divine."

Our attention was drawn to this little *Beroë* by the occasional iridescence of portions of its body, and particularly of the tiny paddles or *cilia*, sparkling under the rays of the



sun. It was the brilliant sun that rendered them radiant. Beautiful as they are, they have no radiance of their own. Their sweet beams are borrowed. Their light comes from on high—from the sun, God's treasure-house of light. Oh ! should not we remember that it is only when we reflect the beams of a better sun—the Sun of Righteousness—that we can at all be said to shine ? We are all darkness, and walk in darkness, till the day dawns, and the day-star arises, and from the Fountain of light and life, life and light are given to us. “Wherefore, awake, thou that sleepest, and arise from the dead, and Christ shall give thee light.” “Arise, shine ; for thy light is come, and the glory of the Lord is risen upon thee.” Let us court the beams of this blessed light ; for if we reflect their splendour as we journey through the wilderness, we shall shine as the jewels of Christ's crown in our Father's kingdom above.

Another thing struck me. Though the sun was shining there were some of the *Beroës* that did not shine. Those that reflected the light from their spangled sides were easily observed ; but the others, being nearly the colour of the water in which they floated, would not have been observed by us had it not been for the shadow which, little opaque as they were, was formed on the sand at the bottom. Now, here were beautiful creatures, with organs fitted to reflect the light, but somehow, they received not the beams that were illuminating those around them. Is not this the case with many human beings ? They may be endowed with noble talents—they may have the form of godliness—they may sit as God's people sit, and may seem to hear as God's

people hear ; but they hear only with the hearing of the ear—their hearts are on the mountains of vanity, and the Word which to others is the savour of life unto life, is to them the savour of death unto death. Instead of shining for the glory of God and the good of those around them, their path is marked only by darkness. They love not the light ; they receive not the things of the Spirit of God, and they walk among sparks of their own kindling. These little *Beroës* were floating on the tide ; the first rough wave might have dashed them against a rock, or run them aground on the sand, and then a single beam of the scorching sun would have withered them up for ever. Oh should not they who are walking in darkness, and spreading darkness, consider that the day is far spent, and that the night is at hand ; and that nothing can be more dreadful, when emerging from the valley of the shadow of death, than the wrath of the Lamb, whose benignant smile they are now despising !

Other *Beroës* have been discovered in Arran. In the month of July, when my daughter Margaret was on a visit to her friend, Miss Ramsay, at that time residing in Arran, they fell in with a *Beroë*, some specimens of which were as large as a common-sized lemon. I was sorry that I was not of the party, but I had not long cause of regret, for the succeeding week, when my young people were bathing at Saltcoats, they fell in with a squadron of them, and having captured some, they brought them home for my inspection : “ Lo, children are a heritage of the Lord. . . . Happy is the man that hath his quiver full of them.” It would be paying

them a poor compliment, were I to rest their filial attentions on nothing better than their capturing of *Beroës* ; and yet, as I have little time myself for strolling on the shore, I count it some advantage to have occasionally younger eyes and hands at work for me. When they were younger than they are now, a penny was promised for every new shell or sea-weed, &c., they found on the shore ; and when new ones became rare, the premium rose to sixpence. This I thought one of the cases in which bribery was not corruption. For some weeks after this, the *Beroës* in fine weather were found in considerable abundance. I brought some of them home, and putting them in sea-water in a jar, I had the pleasure of observing their movements. The largest one we observed here was three inches in length, by about one inch and a-half in diameter. It was very beautiful—much more magnificent than the *Beroë ovata*. In shape, it resembled an antique pitcher contracted at the neck, with a graceful revolution, or turning back at the brim. It did not permanently retain this shape, however, for it could vary it at will. The shape which it more generally assumed was that of a clasp purse, rounded at the base, and somewhat truncated at the mouth. They were of various sizes, from the size of a lemon, a little truncated above, to the diminutive size of a lady's thimble. Being in general much larger and heavier than the *Beroë ovata*, they are more likely to attract attention ; and yet I never heard of their being observed on our coast before. As I knew that some fine *Beroës* had been found on the Irish coast, I sent a figure of this one to Mr William Thompson, Belfast, who showed

it to Mr Patterson, Belfast, who has written very scientifically on *Beroës*, and who kindly sent me his interesting publications ; but as it was new to both these gentlemen, Mr Thompson forwarded the figure to Professor Edward Forbes, London, who informed us that it was *Beroë cucumis*, and that he had found numerous specimens of it that season in Lochfine, and had spent two whole days in the examination of them. As it is a rare animal, I may give a short description of it. It is gelatinous, like the sea-jellies, and hollow inside like a pitcher. The whole body has a tinge of pink, and the eight ribs closely set with cilia, are beautifully adorned, having on each side an edging like fine crimson lace. In the larger specimens, this lace-work was studded with little orange oval-shaped bodies, like little grapes, attached by a capillary peduncle. When the *Beroë* was at rest, they rested ; but when the cilia began rapidly to play, and the current of water, mixed at times with air-bubbles, to rush through the tubes of the ribs, then all the little orange bodies were in quick motion, as if dancing to the music of the spheres ; or, believing in fairies, as our forefathers did, one might have fancied that they were lace-bobbins, moved by nimble, invisible fairy hands, weaving the beautiful lace edging with which they were intermingled. Professor Forbes, however, says, as I had conjectured, that they are the eggs attached to the placentary membranes ; and I doubt not that they are thus shaken by the motion of the cilia, that when fully ripe they may thereby be detached.

As it is not likely that I shall return to the *Beroës* again, I have been tempted to subjoin some information respecting

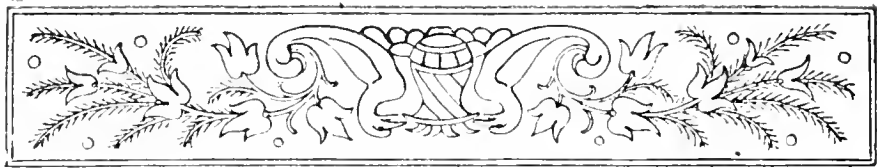
two of that tribe, so well described by Mr Patterson in the papers he so kindly sent me. They are distinguished from the *Beroës* that have come under my observation, by having tentacula. The first, to which he has given the name *Cydidippe pomiformis*, was found by him in considerable abundance at various times, near Larne, in the county of Antrim. It had not before been recorded as British. From Mr Patterson's description it is evident that it is a creature of great beauty and elegance. Its form, as its specific name implies (*pomiformis*, apple-shaped), is more globular than either *Beroë ovata* or *Beroë cucumis*. Its consistence and also its movements by cilia (hence *Ciliograde*) were pretty much the same; but what most obviously distinguished it from the genus *Beroë*, was that it had two tentacula—one from each side—which, when extended, were five or six times the length of its body. These tentacula were of great beauty, being beset with delicate hair-like cilia, diverging like branchlets from the main stem; at times, indeed, rolled up like beads, but at other times moving gracefully, like the tentacula from which they sprang. The tentacula themselves were not always visible, as on any alarm they withdrew with a sudden jerk into their sheath-like tubes, in which they lay concealed till the alarm was over, when, as they wheeled onwards, rising and falling at pleasure, they exhibited in great perfection their locomotive powers, and displayed in the sunshine the splendid iridescence of their colouring.

Another thing remarkable in them was their seeming insensibility of pain. An active little *Medusa* having laid

hold on one of them, before they could be separated, it cut out from the side of the *Cydippe* a segment of a circle extending to more than a third of its breadth and fully two-thirds of its length. Did the *Cydippe* die, when three ribs, with their gelatinous clothing, were thus like a crescent cut out of its body? No such thing. During four days that it was afterwards kept, it continued to career through the jar, and seemed as active and happy as before it met with the seemingly ruinous mutilation! When any of them happened to be shattered by the storm, the principle of vitality continued in the fragments. And when one of the fragments was clipped into small pieces, the cilia on the smallest *bittock* persisted in their rapid movements for a night and a day after an operation which might have seemed as deadly as if performed by the scissors of the Fates.

Mr Patterson describes another *Ciliograde* which he had the pleasure of discovering, and to which he has given the name of *Bolina Hibernica*, and which, when dredging in Arran with Mr Alder, Newcastle, we were so fortunate as to take. It comes near the shape of *Beroë ovata*; but it had four tentacula, which were very beautiful—sometimes erect like the ears of a horse, and at other times hanging down like those of a lap-dog. Along the edge of the convolutions there was also a dark hair-like line, which the animal has the power of drawing up, or of allowing to hang freely in the water, as it pleases. The only thing I shall advert to respecting the *Bolinae* is their phosphorescence. When about thirty were put into a glass jar, and the water agitated, the whole contents of the vessel became so completely lighted up

as to render all the adjoining objects for a moment visible. On stirring them round, they were seen like lamps suspended in the water. “It was impossible to behold these bodies of innocuous flame, floating amidst the brightness which they themselves diffused, without feeling that to convey an adequate idea of their beauty would be a task more fitted for the imagery of the poet than the language of the naturalist.”



## CHAPTER VII.

“ Now it is pleasant, on a summer eve,  
When a broad shore retiring waters leave,  
Awhile to wait upon the firm fair sand,  
When all is still at sea, and calm on land ;  
And there the ocean’s produce to explore,  
As floating by, or rolling on the shore,  
Those living jellies which the flesh inflame,  
Fierce as a nettle, and from that its name ;  
Some in huge masses, some that you may bring  
In the small compass of a lady’s ring ;  
Figured by hand Divine, there’s not a gem  
Wrought by man’s hand, can be compared with them ;  
Soft, brilliant, tender, through the wave they glow,  
And make the moonbeam brighter where they flow.—*Crabbe.*

WHERE is the person who has ever walked on the sea-shore, who has not observed what is commonly called a sea-jelly ? The sea-jellies are very much at the mercy of the winds and waves ; and after a breeze they are often seen spread on the shore ; and as they show no symptoms of life when they are out of the water, many see them without supposing that they ever had life. But when we see them floating in a quiet creek, it is evident that



they live, and enjoy the life that God has given them. Their gelatinous body is a flattish hemisphere; and they move through the waves by gracefully contracting and expanding their body, like the folding and unfolding of an umbrella. By naturalists they are ranked among the *Acalepha*; and they derived this learned Greek name from a property which some of them possess of stinging like a nettle. Bathers often learn this by painful experience. When they fall in with a large *Scoudre* (the Scotch name), and get entangled among its long envenomed threads, they find themselves in a most unenviable predicament. I have known ladies so much stung, that, what with pain and what with fear, they were in a fever, and had to send for medical aid. Only a few of them have this stinging property; and it is probable that it is bestowed on the few for the defence of the many, as they are all supposed to say, "Touch me at your peril." Many serpents are harmless, but as others of them are exceedingly poisonous, the whole race are hated and shunned as venomous reptiles, and as kindred of the serpent that had so much share in Adam's fall. The only one of the sea-jellies that I know to be possessed of the stinging talent is the large brown *Scoudre*, so common on our shores. In it the threads retain their virulence even after they have been separated from the animal by the force of the waves. When I was in a boat one day near Ardrossan, I grasped, as it was carried past by the tide, what I thought was a rare and beautiful purple *Alga*, but I very speedily let go my prize. Major Martin, who was alongside of me, next grasped it as it passed him; but in a moment dashed

it back into the sea. We looked at each other, and, notwithstanding the smarting of our fingers, laughed on finding that we had both greedily caught a Tartar—*dissecta membra Medusæ*.

Several species of fish, in an unexpected way, have the power of securing for themselves respectful treatment. Some, like not a few examples of a higher animal, do it by the fierceness of their looks. One of my sons, when a child, in wading at Lamlash, encountered among the sea-weed *The Great Pipe-Fish*. Though called “great” it is only from twelve to fifteen inches in length; but so extraordinary is its appearance, that a glance at it led my boy in terror to take to flight. It is well it was not its Mediterranean brother, *The Sea-horse Pipe-fish*, for it might almost have put him out of his wits. Every boy that engages in sea-fishing, knows that the gurnard is so well-armed a little sailor, that he is as *uncannie* to handle as a stout Scotch thistle, or the urchin of the sea-shore. But on some parts of our coast they know a fish much more to be dreaded. It is considered rare in Scotland; but it is much less rare in some parts than many could wish; for it is far from being a favourite. By men of science it is known by the formidable name *Trachinus vipera*; by fishermen on the west-coast it is called *The Souter*, from its awl-shaped spines; but by boys it is generally called *The Stangser* or *Sting-fish*, and it is well entitled to the name. I heard of it lately. As a juvenile party were catching sand-eels and paddling in the water in search of the eels in the wet sand, a fine boy of the party feeling a fish under his foot, put down his hand, and

finding, when he had caught it, that it was not an eel, he held up with delight his glittering prize. An elder boy, however, shouting out—*A Stangser!* he instantly cast it from him, and laughed with joy at having escaped, as he thought, unscathed. But his laughter was short-lived; for though at first he felt no pain, and saw no wound, in about half a minute the pain became so excruciating, that screaming aloud he ran home in a state of great anguish. The hand was by this time both inflamed and swollen; but when it was plunged in hot water the pain greatly subsided, and by next day it was nearly gone. The fish when full grown, is about five inches in length. “Its back is reddish gray; the lower part of the sides and the belly silvery white; the membrane of the first dorsal fin is black.” Its weapons of defence are strong spines on the back, and also on the gill-covers, and on the snout. These it can erect at pleasure, and they are provided with a venomous substance, which it has the power of secreting, and this venom lodging in the wounds it inflicts, causes the acute pain which those who are stung by it experience.

But let us return to the sea-jellies. We saw several beautiful ones this morning, chiefly those of a bluish-white colour, with violet-markings above; in some, a cross; in others, four circles. There is a pretty kind which I have occasionally seen in Arran, about the size of a large orange, of a buff colour, and more hemispherical than the commoner kinds. We saw the *jellies* best from the deck of the steamer, before starting from Lamlash, and when the vessel stopped for a little in Brodick Bay. We doubt not that the tribe

got the name of *Medusa* from the circular fringe of tentacula proceeding from their margin bearing some resemblance to the *Gorgon's* head, with its ringlets of serpents.

There was one discovered by my son David, which was quite new to us, and, from its minuteness, probably known to few. We took it home, and put it in a tumbler of seawater, that we might better observe its structure and its graceful evolutions. I would have attempted to describe it, but glad was I, soon after we had seen it, to find this done to my hand by one who is acknowledged by the best judges to be *facile princeps* in the scientific world as a graphic describer of nature—Mr Hugh Miller, best known among men of science as the author of the truly interesting work on the “Old Red Sandstone,” but better known to our countrymen in general as the talented editor of the “*Witness*.” Nothing escapes his scientific eye; and from his “*Summer Rambles*” I learned that he had about the same time discovered it when aboard the *Betsy*, off the Island of Eigg. He speaks of two—one scarcely larger than a shilling, “another still more minute” (ours, I think about the breadth of a sixpence), “which, presenting in the water the appearance of a small hazel nut of a brown-yellowish hue, I was disposed,” he says, “to set down as a species of *Beroë*. On getting one caught, however, and transferred to a bowl, I found that the brown-coloured, melon-shaped mass, though ribbed like a *Beroë*, did not represent the true outline of the animal: it formed merely the centre of a gelatinous ball, which, though scarcely visible, even in the bowl, proved a most effective instrument of motion. Such were its con-

tractile powers, that its sides nearly closed at every stroke behind the opaque centre, like the legs of a vigorous swimmer ; and the animal—unlike its more bulky congeners, that, despite of their slow persevering flappings, seemed greatly at the mercy of the tide, and progressed all one way—shot, as it willed, backward, forward, or athwart.” The transparent tumbler gave me this advantage in observing it, that I could use a magnifying lens when it approached the side of the tumbler. Notwithstanding this advantage, it was some time before I observed the true form of the animal, as Mr Miller’s excellent description had not then been published. The transparent ball that rose above its body was so very pellucid, that it was a good while before I observed it at all. It rose to a considerable height above the buff-coloured body of the animal ; and it was elegantly shaped, like the fine crystalline shades often placed over stuffed birds, or artificial flowers, or miniature figures formed of pure alabaster. The finest crystal vase was clumsiness itself when compared with it. It was fine as the transparent soap-bubble blown out of a pipe ; and we doubt not that, like this bubble, it would have been iridescent, had it been so placed that the sun could have shone on it. Delicate as its fabric was, the vigour of the little creature was very remarkable, and has been well-compared to the efforts of a strong swimmer, as it alternately contracted and expanded its pellucid organization. The margin of its mouth had a close fringe of brownish tentacula. By the aid of the lens, I could observe that they were drawn in when the body was contracted, but that at every stroke they were protruded

like forked lightning, or like tethered serpents, darting or flashing forth, till they were longer than the whole body of the animal.

Though I am not much acquainted with the classification of the *Medusæ*, I think that this tiny *Gorgonette* should probably be ranked in the genus *Thaumantias*, as it bears some resemblance to *Thaumantias Thompsoni*, which I found some years ago at Millport, and which is figured, I think, in the "Annals of Natural History." When I conjectured that in favourable circumstances it would be iridescent, I did not remember that *Thaumantias* was one of the names of *Iris* the rainbow; but this renders it probable that the name was given because of iridescence.

In looking at this little *Medusa*, with its semi-invisible gelatinous canopy, and comparing it with others of its kindred, we could not help thinking of some beautiful soap-bubble balloons we had lately seen, which though in some respects alike, in others differed from each other. Those formed in the usual way, by air breathed from the lungs, which had lost part of its oxygen, and had got in its place some carbonic acid, were evidently heavier than the atmospheric air into which they were launched from the bowl of the tobacco-pipe; for so soon as they had lost the impulse given them when they were disengaged, they showed a downward tendency, and, after a few windings, came to the ground. Others were formed in the same manner, with this difference that they were filled with hydrogen gas, which had been collected in a bladder; and thus, being lighter than the atmospheric air, they rose beautifully, and

soon fastened themselves on the ceiling of the room in which the experiment was performed.

Will my juvenile friends forgive me, should I say that by balloons and *Medusæ* I am reminded of “young men and maidens,” and should I try to read them a short lesson? Has not “God made of one blood all the nations of men to dwell on all the face of the earth?” “Has he not fashioned their hearts alike?” And yet, with a common origin, and a common nature, and great similarity in many respects, is there not in other respects a striking dissimilarity? Take a given number of the young of the same age, of the same rank, and with the same privileges—how often does their history prove as different as day and night! Some are fair, but frail, floating or fluttering about for a little in great beauty, and with some promise; but they are unsound at the core; they seek not to get quit of the stony heart which they carry about with them; they have consequently a tendency to descend, and like our carbonated bubble, they fall lower and lower, till they mingle with the dust. Others are like the massive *Medusæ*, without energy, or effort, or aim. They swim with the tide; they allow themselves to be driven about and tossed by every wind and wave; they think not of the breakers a-head, though they are constantly nearing them; and a life of aimless ease soon terminates in utter ruin. Others are like the great stinging *Scoudre*—intent on evil, and capable of inflicting it. See you a person of this description, my young friends? Flee from him;—“*habet fœnum in cornu*—he has a wisp on his horn,” showing him to

be vicious, given to push and gore. Shun him as you would the pestilence.

Another class there is, puffed up with self-conceit, aiming at great things, but, from want of ballast, unable to execute them. How aspiring is that little hydrogen bubble! It mounts high; but it carries little up, and it brings less down. Chemists tell us that hydrogen is the lightest of all ponderable substances. Vanity is lighter. Unhappy they who have their head full of it. They remind us of the aspiring youth in heathen mythology, whose ambition it was to drive for a day the chariot of the sun, but, having neither strength nor skill to guide the wing-footed steeds, and leaving the beaten track, he perished in the daring enterprise. They recall also to our remembrance another ancient fable, written when foxes spake, and players on the stage not only personated fictitious characters, but wore a false face—a mask, sometimes with finer features than those it covered. In those days of yore, Reynard found a fine mask. He looked at it with surprise and admiration; but happening to turn it over, and finding that it was light, he lifted up his voice and exclaimed, not in Latin, “*Fronti nulla fides*—There’s no trusting to looks,”—but in pure ancient Greek, which, as his interpreter, we must render into English, “What a beautiful head!—but it has no brains!” Had this *gash* fox understood Scotch, we doubt not he would have said, “It’s very bonny, but, alas! it is *toom*!”

But we must close with the little *Medusa* with which we started. It was less than any around it; but, endowed with spirit and innate vigour, it evidently rejoiced in the exercise



of its powers, and seemed not only the most active, but the most happy of the whole. It was delightful to see this little crystal bell putting forth a miniature giant's strength, and, instead of yielding to the adverse tide, bounding at will through the opposing waves in campanulated beauty.

And is not *it* the representative of a class? Yes, of a noble class—the excellent ones of the earth, whom God has ennobled, giving not mere talent, but energy, generated and sustained by grace. We honour talent; but mere talent may dishonour the possessor of it. Even genius may perish amidst its own deceitful coruscations; but grace burns, not with a flickering blaze, but with a steady flame—the fire of holy zeal for God's glory, accompanied with the kindly warmth of brotherly love. It gives elevation to the mind, and heavenly strength to human efforts. He who is rich in grace is “always abounding in the work of the Lord, forasmuch as he knows that his labour shall not be in vain in the Lord.” It has been quaintly said respecting one of this class, “The sun stood still when he was not busily employed in his Master's service.” In trying circumstances it exalts what might have seemed an ordinary character into one that is extraordinary, in doing or in suffering, converting the natural timidity of female loveliness into the warrior's courage or the martyr's endurance; or giving to the man whose life has been spent amidst the useful arts of peace, that heroic firmness of Christian principle, which mighty kings may not be able to imitate, and which raises above the fear of man, that worketh a snare. Bernard Palissy, to whom France was indebted in the sixteenth century for the

introduction of the manufacture of enamelled pottery, was one of the most extraordinary men of his time ; in his moral character displaying a high-mindedness and commanding energy altogether in harmony with the reach and originality of conception by which his understanding was distinguished. “Although a Protestant, he had escaped, through royal favour, from the massacre of Bartholomew ; but having been soon after shut up in the Bastile, he was visited in his prison by the king, who told him, that if he did not comply with the established (Popish) religion, he should be forced, however unwillingly, to leave him in the hands of his enemies.” “*Forced !* sire,” replied the brave old Huguenot—“*forced !* this is not to speak like a king ; but they who force *you* cannot force *me*. I can die.” And he did die—not by the sword, nor by the axe of the headsman, which, comparatively, would have been merciful, but by lingering imprisonment in the dungeons of the Bastile, from which he was not delivered, till, in the ninetieth year of his age, death set him free !



## CHAPTER VIII.

“The sea ! The sea ! Thou changeful changeless sea !  
Changeful as fleecy cloud or fitful breeze :  
Changeless in this, 'mid thy mutations all,  
That thou art noble still in every change.”—*D. L.*

HAVING a few days free from any urgent professional engagement, I availed myself of an opportunity which might not soon again occur, and on the 1st of June, 1846, embarked, with my son David, for our favourite Island of Arran. As an additional inducement, I knew that Mr Joshua Alder of Newcastle had taken up his abode for a few weeks in Lamlash, and as I had had the pleasure of meeting with him in Ardrossan, I looked forward with delight to the benefit which I might derive from associating for a few days with a gentleman who is not only highly distinguished as a naturalist, but much respected and esteemed by his numerous friends for his strict honour and modest worth, and for the suavity of his unassuming manners, proceeding from a kind and honest heart. On landing at Lamlash we found him waiting our arrival on the quay, and it was soon arranged that we should spend some hours in

dredging. The afternoon was very favourable. Accompanied by Miss Alder, who enters with zeal into all her brother's pursuits, we launched from the quay and rowed to the Holy Isle before we shot our dredge. In crossing we had the pleasure of seeing several beautiful *Beroës* floating past us, but we were ill-prepared for Beroë-fishing, as we had no vessel either for catching or preserving them. At the first haul of the dredge we took up several things deserving of notice. At the root of some tangle brought up by the dredge we found *Comatula rosacea*, the feather-star, much prized by me when I found it for the first time in this bay two years ago, but which was now found by us in abundance, and which had been got in still greater abundance by Mr and Miss Alder, at Torquay. A little fish was found by us, which Mr Alder knew to be *Callionymus dracunculus*, the sordid dragonet. We got also several specimens of the little sucker, *Lepidogaster bimaculatus*, prized as new and rare when found by me in this bay in 1844, but which I now saw was far from being rare. On the Laminaria we found *Lepralia hyalina*, *Lepralia verrucosa*; and *Lepralia annulata*, all—especially the last two—rare; also, *Tubulipora flabellaris*, and *Tubulipora hispida*. We got some ugly overgrown specimens of the common cross-fish, and equally well-thriven specimens of *Uraster glacialis*, and a gigantic specimen of *Luidia fragilissima*, new to me, and but lately discovered by Dr. Johnston, and named by Professor Edward Forbes. Each ray was a foot in length, so that, being fully two feet in diameter, if royalty went by bulk, this might have been king of the star-fishes.

But, whatever was his rank, "*otium cum dignitate*" had not been his lot, as he bore proof, by loss of limbs, that a maritime life is not free from dangers and difficulties ; for he was greatly mutilated. "Skin for skin, all that a man hath will he give for his life." *Luidia* has the principle of self-preservation so powerfully implanted, that it willingly parts with its limbs that it may escape with its life. You may think yourself sure of your prey when you have laid hold of a stout ray, whereby to haul it into the boat ; but the likelihood is, that though you retain the ray, your booty swims off. Entire specimens of this species are seldom got. The one which on this occasion came into our hands had been in perils before, so that only two of its rays were entire. The others were in various stages of growth ; and in mercy to the maimed veteran we threw him back into the deep, in the hope that he might be spared to become a perfect animal. We got this afternoon several large specimens of *Goniaster Templetoni*, a very beautiful scarlet-coloured star-fish, generally considered as a rarity, but which is far from being uncommon in Lamlash Bay. When we came on the scallop-bank we brought up lots of beautiful *Pectens*, which were prized by the boatmen for bait, but which were strictly scrutinized by us before we parted with them, in the hope of obtaining something on them more precious than all that was in them. Mr Alder was chiefly intent on finding Nudibranchs, while I was more on the outlook for Algæ and Zoophytes. With respect to the former, I was disappointed. I was almost sure that we should find on the clams, as we did about the same season

last year, several specimens of the rare and beautiful *Callithamnion seirospermum*, now *Seirospora Griffithsiana*; but not a single frond could be seen. We got on them, however, some good Zoophytes, such as *Plumularia pinnata*, *Plumularia Catharina*, and *Halecium halecinum*. I hoped that we might find *Plumularia myriophyllum*, which, especially if enriched with vesicles, would have been a prize, as the two specimens which at different times I got in Arran are the only examples that have been found of it with vesicles. One of these specimens I had sent to my excellent friend, Dr Johnston, who has given a figure of the strange-looking vesicles, and honoured it with the following notice in his admirable work on "British Zoophytes":—

"Since the preceding sheet was printed, I have received from my friend, the Rev. D. Landsborough, a specimen of *Plumularia myriophyllum* with ovaries. These are very peculiar, and unlike any I have observed in any other Sertularian zoophyte. In the ovigerous pinnules there arises from the base of the polype-cell, and on its outer side, a long gracefully-curved process; and as all the processes curve round in one direction, they give the pinnule a fecund character and habit, very different from that of the barren shoots. The processes are alternate, hollow, coarsely denticulated on the external edge; and at their base, opposite the polype-cell, the ovaries are situated. These are didymous, or in pairs, sessile, smooth, resembling a muscle-shell in shape, and easily detached. They differ from the horny vesicles of the Sertularians in texture and in shape, and may best be described as naked ovaries. The spinous pro-

cess which protects them appears to be formed by a prolongation of the spine that supports the barren polype cell."

Mr Alder considered himself more successful, for he found a new Nudibranch, which, in honour of the place of its nativity, he has called *Eolis Glottensis*, from *Glotta*, the Latin name for the Isle of Arran. He afterwards found *Doris flamma* and *Doris Johnstoni*, and a new *Doris*, very unlike any of the other British species—*Doris planata*. And he was much pleased with finding a new species of their new genus *Eumenis*, viz., *Eumenis flavida*, quite distinct from the species found in Torbay the year before, but confirming the characters given to the genus. But what like are Nudibranchs? When I say they are sea-slugs, one would expect them to be disgusting little creatures. But nature delights in surprises. Varied and beautiful as is the painting of the shells of tropical seas, the painting of the bodies of the Nudibranchs of our own seas is as bright in its colouring, and as varied in its tints, while there seems no limit to their strange and beautiful forms. Concerning one of the genera, George Henry Lewis, in his "Sea-side Studies" writes—"The *Eolis* is a sea-slug, but in spite of this ill-sounding name the sea has few creatures more elegant in form, or more exquisite in colour. In size it ranges from one-tenth of an inch to three inches in length. The more elegant species, such as *Eolis pellucida*, or *elegans*, or *Landsburgii*, should be sought for every Aquarium, care being taken to keep them out of the way of the Anemones, which they mercilessly attack. Believe in no woodcut representations of these exquisite creatures;

all woodcuts are libels. The plates of Alder and Hancock's magnificent monograph approach as near to the beauty of nature as can be expected of plates; but even they necessarily fall short of the delicacy of tissue and witchery of colour often displayed by these animals." "The beautiful and delicate amethystine colour of the charming little *E. Landsburgii* distinguished it from all the other British Eolides," the colour of the bodies of none of them being of the same shade. The deep violet of the middle portion of the branchiæ of the delightful *Eolis tricolor*, is the nearest approach to it.

But I had something besides dredging in view at this time. Though I have circumambulated the island, I had gone along the highway, in going from Kildonan to Kilmory, and had thus missed a very interesting part of the sea-shore, which I proposed visiting on this occasion; so that David and I landed near to Cordon. In mounting the heights to reach the highway to the south of Lamlash, it was delightful to look back on the peaceful loch, sleeping in the bosom of the surrounding mountains. As the sun was very powerful, it was delightful also to take breadth; but this was a pleasure that could not long be indulged in, as it was already five o'clock, and a walk of some length lay before us. As my time was limited, I could have wished to reach Lag that evening; but as it was fourteen miles distant, and as the afternoon was one of the very hottest of the season, I proposed staying for the night at Kildonan, being told that we might get lodgings there. Our path lay along the shore, and our walk was a delightful one. There was scarcely any-



thing in the scenery that could be called grand, but there was so much sweetness, that, in the loveliness of the scene and of the season, we were disposed to say, "*Nunc est formosissimus annus.*" In passing near to King's-cross, we searched for the tent-making spiders, and I was sorry that not one of them could be found. At a more advanced period of the season, I doubt not that they will resume their textorial occupation.

After making some calls at Whiting Bay, we trudged along by Largy-more, Largy-Meanoch, and Largy-Beg, which I have become so learned in Gaelic as to know mean the great, the middle, and the little field. In passing the steep rocks at Dippin, we found that they were full of life, being inhabited by flocks of jackdaws and starlings, which, having their nests there, kept up a continual concert, after a sort; for though their song has little music in it, it has this recommendation, that it is expressive of happiness. We doubt not that they are very happy. They may have large families at this season to provide for, but they grudge no labour, and they have no care. "They sow not, neither do they reap and gather into barns; but our heavenly Father feedeth them." If God so feed the fowls of the air, how much more will He feed his intelligent offspring, if, even with a little faith, they put their trust in Him!

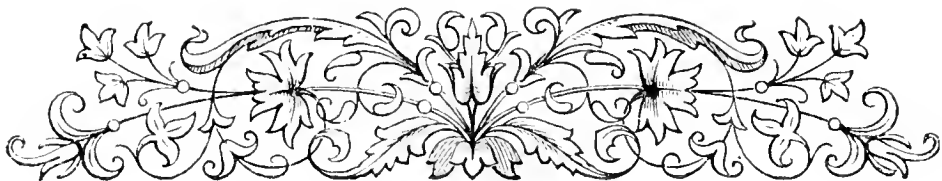
After a very pleasant walk we reached Kildonan about eight o'clock. We thought that our walk was over for the evening; but we had been reckoning without our hostess, for on reaching the house which we wished to be our domicile for the night, we learned that the widow had ceased to

entertain travellers. Being hungry as well as tired, we got her to prepare for us tea, by which we were much refreshed.

We had already walked eight miles, and six more lay before us. In the days of my youth, this would have been a pleasure ; but the buoyant elasticity of youth is gone, and, though the grasshopper is not yet a burden, the autumnal almond tree, premonitory of winter, begins to flourish. [He was in his sixty-seventh year.] Yet I have cause to be exceedingly thankful for much health and strength, and for a considerable residue of those walking capabilities which often rendered me very independent, and enabled me to enjoy pleasant excursions, which otherwise I must have denied myself. To my young companion, though laden with a portmanteau, the walk was not at all formidable. It was now betwixt eight and nine o'clock, however, and no time was to be lost in idle parley. We pushed on, therefore, though the sweet scenery tempted us at times to halt. Pladda lay before us in sober beauty, the sea beyond lying under a veil of haze, and the sea around the little island being beautifully dotted with fishing boats. Before we reached Little Mill we had a striking view of Beman-head, a bold headland, which loomed very large amidst the closing shades of evening.

In approaching Auchinhew we had inquired at a person we met our distance from Lag, and were told that it was only four miles, and that we would easily reach it by ten o'clock. After walking half-an-hour at a pretty quick pace we put the same question to another person we met, and the answer was that Lag was four miles and a half distant,

This was not very cheering, but we went on courageously, for the evening was charming, though extremely hot ; and we were serenaded by the mavis, the blackbird, the cuckoo and also by the corncrake or rail, now heard by us for the first time this season ; and though not of itself sweet, its note is thoroughly rural, telling us that wished-for summer is at last come, and has clothed the corn-fields with enough of verdant blade to conceal the lurking stranger so often heard and so seldom seen. Having proceeded about a mile, we again made inquiry as to the distance of Lag. Alas ! Lag, instead of lagging, seemed to be floating on before us, for it was still distant four and a half miles ! Whether it took pity on us and retraced its steps we shall not pretend to determine, but the last miles certainly seemed short ones, and we had the pleasure of reaching it a little after ten o'clock ; and it was worth reaching, for it is a very comfortable, well-kept inn, in a lovely dell. Though I had been near it before, I had never seen it, for it lies snugly hid in a sweet hollow, with a lively stream, called Torlin Water, running through the little dale close to the inn. The sleep of the labouring man is sweet, and so is the sleep of the weary traveller ; and committing ourselves to Him who slumbers not, neither sleeps, we were soon in the enjoyment of refreshing repose.



## CHAPTER IX.

“Earth has not a plain  
So boundless or so beautiful as thine ;  
The eagle’s vision cannot take it in ;  
The lightning’s glance, too weak to sweep its space,  
Sinks half-way o’er it like a wearied bird :  
It is the mirror of the stars, where all  
Their hosts within the concave firmament,  
Gay marching to the music of the spheres,  
Can see themselves at once.”—*Campbell*.

SLEEP has been spoken of as the twin-brother of death. How welcome the one—how dreaded the other ! Sleep has been spoken of by the poet as a fair-weather friend :—

‘ He, like the world, his ready visit pays  
Where Fortune smiles ; the wretched he forsakes ;  
Swift on his downy pinions flies from woe,  
And lights on lids unsullied with a tear.’

We own no obligations to Fortune ; we are little careful to court her smile, and we dread not her frown ; but we owe much to a kind providence, and we lament that we are not half so grateful as we ought for innumerable favours, and,

among others, for so many nights of refreshing rest. This night had added to the number. Many had lain down to arise no more. Many had been filled with tossings to and fro to the dawning of the day. We had lain down, and had awaked in health and strength; for the Lord had given us refreshing rest in sleep. After an early breakfast we sallied forth. I was glad that we had reached Lag the evening before, for otherwise I could not, without over-exertion, have accomplished what I had planned. We had still enough before us for the day, to explore the sea-shore from Lag to Kildonan, and afterwards to walk to Whiting Bay. Were I writing an agricultural survey, I might find much to say in commendation of the excellent farming on Clachig, near to Lag; for Arran has here lost its Alpine character, and stretches forth into extensive and well-managed farms, consisting of fertile plains and sunny braes, laden with rich crops. But it is not of crops and cows that I am inclined to speak—but of birds, and beasts, and creeping things—of crags and cliffs, and caves and cleughs, and of the various shrubs, ferns, mosses and wild flowers, that adorn the same. I was much pleased with the fine precipitous rocky cliffs facing the sea on the farm of Kilbride, composed chiefly of sandstone. These cliffs are the favourite resort of several of the feathered tribes, chiefly jackdaws and rock-pigeons, that having at this time their nests there, kept up an incessant cooing and cawing. Some boys passed us, from whom I learned that they were on their way to the cliffs, bent on scaling them, that they might carry home with them some young jackdaws as pets. I charged them to show their

tender-heartedness by leaving some of the brood in the nest, that the parent birds might not be left to wail in utter bereavement.

“ I have found out a gift for my fair—  
I have found where the wood pigeons breed ;  
But let me the plunder forbear,  
She will say 'twas a barbarous deed.  
For he ne'er could be true, she averred,  
Who could rob a poor bird of its young.  
And I loved her the more when I heard  
Such tenderness fall from her tongue.”

I would not trust my life in the hands of the heartless clown, who, when a boy, could wantonly plunder a nest, that he might have the pleasure of putting the unfledged young to death. I have known such boys, and they always turned out worthless fellows.

Among the diversity of wild flowers on the shore at this place, two particularly attracted our attention—the one was *Lithospermum maritimum*, a beautiful plant, with procumbent branches spreading on the sand. The flowers are of a beautiful purplish-blue, and the leaves are covered with a fine glaucous bloom, like that seen on plums. It is sometimes called the oyster-plant ; for the flavour of the plant, when chewed, resembles that of oyster. The other flower, which we still more admired, was a variety of the little Scotch rose, *Rosa spinosissima*. This is certainly not a rose without a thorn, but it is nevertheless one of great loveliness. I have often admired the numerous varieties of this little rose in a cultivated state, but I never saw in a garden any collection equal in beauty to what we here saw in its

wild state. The usual hue of this little rose is creamy-white; but here, on a cream-coloured ground, the petals were beautifully shaded with pink, from dark to lighter hues. Others, instead of being delicately shaded, were beautifully mottled with pink; and as there was considerable variety in the shading and mottling, and as these sweet flowers were in full blow, we were disposed to linger among them in admiration. How beautiful is the rose in all its endless varieties! The nightingale is fabled to admire it in the East, the Teian Bard admired it in Greece, and celebrated it in his living song; and whether from admiration of the poetry or from love of the flower, some Anacreonic lines took an early hold, and I shall venture to quote them from memory,—

Ῥόδον ᾧ φερίστον ανθος  
Ῥόδον ειαρος μελημα  
Ῥοδα και θεῶισι τερπνα.

“ Best beloved of Flora’s train,  
Glory of the vernal plain,  
Prized by those whose lordly sway  
Fairest, widest realms obey—  
Rose, whom even the gods above  
Cherish with immortal love.”—*J. G. S.*

We soon reached Struye Rocks at the very southern-most extremity of Arran; and at the very commencement of the cliffs we found a great cave, which attracted our attention. We were glad to enter it, to be shaded from the heat, and it was literally the shadow of a great rock, or of a mass of rocks. Rocks of softer material, which had been imbedded, had been washed away, probably when the sea was at a

higher level. The coolness of the cave was very refreshing to us. How often have Zion's travellers, when weary, felt the blessed influence of a more delightful shade ! The large excavation into which we had now entered is called the Black Cave, or the Monster's Cave. The mouth and sides of the cave are supported by rude basaltic columns, giving it somewhat the appearance of Gothic architecture. It may be at the mouth eighty or ninety feet in height ; the breadth is about the half of the height. The length is considerably greater than the height ; but the floor, instead of being level, inclines upwards till it terminates in an opening which communicates with the cliffs above. Owing to this orifice a current of air passed through the cave—very agreeable in so hot a day, but which, if long enjoyed, might not have been very safe ; so that after having gathered in it some specimens of *Asplenium marinum*, we gave it up again to the rock-pigeons, a covey of which had issued from it as we entered. There is another coast-cave about eight miles north of this one, which is hallowed to the people of the district by many sacred associations. In the beginning of the century, the minister of Kilmony was the Rev. Mr McBride, who was honoured by God to be the instrument of converting many souls. When on his death-bed in 1814, he was visited by the Rev. Angus Macmillan, Lochranzie. The dying minister was in distress of mind, for the fear had seized him that, after his decease, one should be set over his flock who would preach “another gospel.” Knowing that his friend was a faithful minister of Christ, gathering up his remaining strength, he adjured him not to leave the



island till the full gospel was preached in it by at least another minister. After Mr M'Bride's decease, the people petitioned that Mr Macmillan should be appointed his successor, but the fears of the dying man were realized. The people, most submissive in other things, would not submit in this, and assembled every Sabbath in this Cave, where the service was conducted by pious Elders, while their poor were supported by contributions made at the Cave mouth. Meanwhile, Mr Macmillan, who, at Lochranza, had a stipend of only thirty-four pounds and glebe, had more than one offer of more lucrative appointments, but declined them. At the end of seven years, Mr M'Bride's successor unexpectedly died. The people again petitioned for Mr Macmillan, and this time with success, and on his settlement the worship in the Cave ceased. The Cave, from this circumstance, is called "*The Preaching Cave.*"

Leaving the Black Cave, our path for a considerable way was a very rugged one, whether we kept low down among the boulders close by the sea, or kept further up close by the base of the cliffs. Owing to the great heat reflected from the rocks, I was glad at times to stand still to contemplate the precipitous cliffs which, in rude columnar form, rose to a great height ; or to listen to the mingled cry, and watch the evolutions of the numerous birds which had their nests in the crevices of the rocks, far out of the reach of man. In addition to the jackdaws, and pigeons, and starlings, blackbirds and mavisés might be seen, with more than one kind of hawk, which would not have far to travel in search of booty for their young. There seemed, however,

to be a good neighbourly feeling among the tenants of the rock ; for the peaceful pigeons, and even birds of smaller size, seemed to approach the predaceous hawks without fear, either having learned hardihood from being accustomed to danger, or having taught the hawks, out of respect to their number, to be on their good behaviour *at home*, and to depend on captures from abroad. Since I wrote the preceding sentence, a paragraph in a periodical presented itself very opportunely, showing that even the smaller birds know that union is strength, and that they can cause their cruel oppressors to quail under their united assault, and quit the prey which their greedy claws had clutched. “ On the forenoon of Monday last, while some boys were watching a pair of swallows feeding their young behind Charlotte Street, a hawk skimming along the eaves of the houses suddenly pounced upon the nest, and carried away two of the brood. One of the parent birds having witnessed the onslaught, instantly gave utterance to a peculiar cry, which, as by the power of incantation, quickly conveyed a noisy and enraged swarm of comrades from all quarters, who, with one consent, gave chase to the destroyer, and overtaking him before he had got half across the Inch, commenced such a desperate attack that he soon gave evident signs of being fairly overmastered, and ultimately sought the ground at a short distance from the fisher’s lodge, where he bravely tried his best to repel the onsets of his assaunders, but was compelled to relinquish his prey and seek for safety in inglorious flight. After his departure, which was effected in no little molestation, the swallows set about the conveyance of

the young ones to the nest, which they effected in fine style, and seemingly to the satisfaction of the whole tribe, who gave unmistakeable signs of being more than usually pleased on the occasion."—*Perth Advertiser*.

One of the chief reasons why I wished to traverse the rugged road along the base of Struye Cliffs, was that I might try to fall in with some of the rare plants that have their habitat there. I remember with what pleasure Dr Curdie, who discovered them, brought me specimens of the following: *Lathyrus sylvestris*; *Althea officinalis*; *Carlina vulgaris*; and *Inula Helenium*. They are very rare, and therefore prized by botanists. It was not my hap to find any of them; and I was not surprised at this, as I was making a hasty transit. They could not so easily elude Dr Curdie, who lived near the place, and could leisnrely scrutinize every cliff, and crevice, and cranny of this wild and rugged spot.

Bennan-head is a continuation of these rocks, and in passing under it, it did not seem so bold a headland as when seen betwixt us and the horizon in approaching from the eastern side the evening before. The slip of level land betwixt the rocks and the sea becomes a little broader than at Struye, and it is carefully cultivated up to the very base of the cliffs. After admiring the crags, and crops, and pastures on the slope to the left, we had only to turn to the right to see them reflected in the glassy sea, in all their diversified colouring of yellow, and green, and grey. How beautifully such a scene as this is described by my highly accomplished friend, the Rev. J. G. Small, in his sweet "Songs of the Vineyard."

"Calm is the face of ocean—not a breath  
 Of wind disturbs its quiet ; and it lies  
 Now like some lovely saint just hushed in death ; —  
 Now, as the varying aspect of the skies  
 Is shed on the responding scene beneath,  
 Like some fair being wrapt in sleep it seems,  
 While we may almost trace her varied dreams  
 In her mild features,—smiling now in love,  
 Now sunk in pleasing sadness, calm and deep ;  
 And each sweet change that from on high is given  
 Seems kindly ordered by a Power above.

' Thus giveth He to his beloved sleep.'  
 Thus dreams of bliss, and chastening griefs, and even  
 The shades of death, fall light on the pure soul  
 from heaven."

This is exquisite ! and could I write such lines as these, I would be greatly tempted exultingly to say, "*Io anche sono poeta.*" The different patches of crop along this landward slope seemed to belong to different persons—consequently, better and worse cultivated. Some patches were clean, and healthy, and verdant ; others had a golden aspect from the copious intermixture of corn, marigold, and wild mustard ; and though the owners might not think this splendour a sufficient compensation for a light grain-crop, we were taught that naught is made in vain, for the happy hum of myriads of busy bees showed us that though it is not all gold that glitters, yet this yellow weed was more prized by them than all the gold that ever issued from the rich mines of Peru.

In passing Drumlabara, we had a very singular view of Pladda and of Ailsa. Pladda is a little island about  $\frac{3}{4}$  of a mile from the shore of Arran ; and Ailsa is a magnificent conical mountain firmly anchored fourteen miles out at sea.

From this point of view Pladda lay full before us, and so concealed the intervening miles of sea, that Ailsa, towering above it, seemed placed in close juxtaposition. Pladda would have afforded us gratification, though we had repeatedly visited it before; but the old truthful sentence, "*Tempus fugit*," was sounding in our ears; and I had to be satisfied with the remembrance of its semi-columnar rocks, and of its old and new light-houses, which distinguish it from the single light of Cumbrae, nearly twenty-two miles further up the Frith. And I remembered, also, the little creek at the landing-place, filled, when I last saw it, with many kinds of *Algæ* and *Medusæ*. We had also before our eyes the old castle of Kildonan, which we would gladly have revisited; but "*Tempus fugit*" sounded as loudly as ever, and on we trudged towards Dippin—not the bold cliffs of Dippin on the sea-shore, which "*Tempus fugit*" would have still more sternly interdicted, but the farm-house of Dippin on the straight road to Whiting Bay. We ventured, however, to look into a well at Dippin, in which, some years before, we had got *Batrachospermum moniliforme*; and we were glad to find that this interesting alga had kept possession of the habitat.

At Largy-Beg we had observed, in a well, the evening before, plenty of *Oscillatoria nigra*, and we wished, as we returned, to take with us specimens of a plant which, from the oscillatory motion of its filaments, looks as if endowed with animal life, but great changes often take place in a night, and during the interval it had been taken away by persons supplying themselves with water at the well. Had we got

it, we would have placed a portion of it in the centre of suitable paper, and having placed the paper in a plate of water, would have set it in the sunlight. In the course of a day or two it would have spread itself over the paper so as to form a specimen, with filaments so gossamer in texture, as to lead persons to wonder how it was possible to have spread it.

There are many fresh-water algæ that are most interesting and beautiful, such as the *Batrachospermums moniliforme*, *vagum*, and *atrum*—the last being very rare; the *Draparnaldia*, universal favourites, the colour and the structure being so lovely. *D. glomerata* is the largest of the family, and also the most common, and when found in a young state, before the zoospores have escaped, it is truly beautiful. It adheres closely to paper; but it is so gelatinous that in most cases it must be allowed to dry on the paper before it is pressed, as it adheres to whatever covers it. *D. nana*, as the name implies, is smaller. It is found in streams adhering to grass and weeds, and sticks and stones. The first time I found it, it was adhering to a piece of wood in a runlet of water pumped from a coal-pit near Stevenston, my parish, in Ayrshire. The next time I got it in great beauty in October, attached to withered grass, at a place generally affected by the tide. For seven years I never saw it again, though I often sought it at the same place at the same season. In May, 1848, however, I got it in great abundance and beauty attached to pond-weed. The tufts, waving gracefully in the stream, were two or three inches in length, and when cautiously handled could

be brought out entire. Aided by my youngest daughter, who waded, though she did not much like it, as the little flounders were always pouncing upon her feet, I procured a great number of specimens ; and now that I know that it is not an autumnal but a spring plant, I hope next May, undismayed by flounders, a good additional stock may be procured.

Some of my fair readers who love plants and flowers, may be disposed to say, "I wish he would speak of his plants under plainer titles, instead of giving such jaw-breaking names as *Batrachospermum moniliforme* !" Dear lady, I fear I would not greatly recommend my little favourite to your regard by introducing it under the more intelligible name of *paddock-spawn* ; for since the truth must be told, we must confess that it has taken its learned name from its resemblance to the spawn of frogs. But if you can prevail on yourself to handle what may seem a mass of dotted gelatine, do take a little of it, and casting it into a basin of water, and placing some white paper under it, bring it out of the water on the paper, if you can, for it is as slippery as an eel ; and if you succeed, you will be surprised. It has spread itself out into numerous branches ; each branch in structure, as the name *moniliforme* denotes, is like a string of beads fastened together by almost invisible gelatine ; and beautiful as it is to the naked eye, it becomes exceedingly more so under a magnifying glass ; for every bead is of such exquisite workmanship, that you will confess that nothing could form it but the finger of God !

After a pretty long walk, we reached Mr King's at Whiting Bay, in good time for tea, and with Highland appetites to

enjoy it. I found that it had been arranged that I should preach on the green at Silver Bank soon after tea. As there had been short warning, the congregation was not great, but it was composed of persons from various quarters—some from Ayrshire, others from Renfrewshire, and our gentle and amiable hostess and her sister were from London: and then there were the Highlanders, some of whom were very patriarchal in their appearance—persons of known worth and piety, who were seen reclining on the green sward before the appointed hour, hungering for the Word, even from a Lowland tongue. We were under that canopy which the Lord stretched forth of old. On the one side was the sea, which from the beginning of time had not ceased to ebb and flow; and though in winter, with its dashing surge, it almost shakes the stable earth, now, under the influence of a gentle summer breeze, it seemed playfully coquetting amongst the trap dykes, or holding a kind of *sotto voce* converse with the smooth pebbles on the shore. On the left were the everlasting hills skirted towards their base with natural copsewood, in which the birds seemed to vie with us in our song of praise. In front were King's-cross-point and the Holy Isle; the one reminding us of a brave king, the deliverer of his country—the other reminding us of a faithful servant of Jesus, honoured in breaking asunder the enslaving chains of Satan, and shedding the beams of Gospel light in a benighted world. There was much to impress us with a sense of the power and wisdom, the goodness and mercy of God; and also with a deep sense of the great responsibility and of the fleeting nature of the life of man.



“Our fathers, where are they? the prophets, do they live for ever?” King and saint have passed away, and those whom the one have led to battle, and also those whom the other sought to lead into the way of life. The place that knows us, shall soon know us no more for ever. O may we follow Jesus, that we may be followers of those who through faith and patience are now inheriting the promises !



## CHAPTER X.

“ Every leaf in every nook,  
Every wave in every brook,  
*Every Polype from its cell*  
In sea-rock pool or crystal well,  
Chanting with a solemn voice,  
Minds us of our better choice.”—*Keble*.

OUR visit to the road-side well at Largy-Beg has suggested to me a chapter on a few of the little animals to be found in brooks, ditches, and wells.

Few animals, great or small, have made such a sensation in the world both of letters and of science as the *Hydra*, a little creature to be found adhering to the fronds and stems of plants growing in ditches and ponds. There are several varieties ; but *Hydra vulgaris* of an orange and brown and sometimes reddish colour, and *H. viridis* of a beautiful green are abundant.

In 1741, M. Trembley, a learned French naturalist, announced that the fable of classical story

    (“ Art thou proportion’d to the Hydra’s length,  
    Who by his wounds received augmented strength ?  
    He raised a hundred hissing heads in air,  
    When one I lopp’d, up sprang a dreadful pair ;  
    By his wounds fertile, and with slaughter strong,  
    Singly I quelled him, and stretched dead along.—*Ovid. Metam.*)

was realized (hence its name) in this little many-armed fresh-water polype—for let it be cut across or lengthways into as many pieces as possible, every piece soon becomes a perfect animal; and that, forsaking the usual mode of reproduction, its little ones grow from the outside of its body, so that child, mother, and grandmother may at times be seen seemingly forming part of a three-bodied animal; nay, that so easily can the little prodigy accommodate itself to circumstances that when turned *inside out*, though apparently rather uncomfortable for a few days, it soon gets on as well as before. The learned world read with amazement. Was their scientific brother mad or joking? He was neither, as naturalists soon everywhere ascertained by their own experiments.

“Rerum natura nusquam magis quam in minimis tota est.”—*Plin.*  
*Nat. His.*

Trembley's statements were found to be in no way exaggerated, so that Cuvier, the distinguished Anatomical Naturalist, speaks of him as “immortel par la découverte de la reproduction du polype,” and says that he acquired “une réputation universelle par sa découverte extraordinaire, que changeait, pour ainsi dire, toutes les idées qu'on avait eues sur la physiologie et l'anatomie animales.”

The *Hydræ* feed upon various little animalcules and infusory animals, and they are particularly fond of a very minute red worm. Their tentacula are generally waving about in all directions; and though they have no eyes, it has been observed that when any little hapless wanderer approaches one of the tentacula, it makes a sudden motion

in that direction and lays hold of it. And alas for the little wight who is thus apprehended ! It is all over with him : there is such venom in the fangs of these little *Hydræ*, that the touch of one of their tentacula is deadly. The little worm that is seized may give a few convulsive struggles, but it soon dies. Even though rescued from the fatal *grip* death almost immediately ensues. Fish, it is said, seem aware of their poisonous quality, and do not feed on them. And yet the effects of their poison are not felt in their contests with each other. It sometimes happens that two lay hold on the same worm, and try to tear it from each other. The worm may break, and then each has its share. If it break not, they swallow at different ends till their mouths meet. Then comes close conflict and the tug of war. What is to be done ? They pause for a little, as if aware of the tremendous crisis, and the larger, making a wide mouth, swallows the smaller one, worm and all. You would imagine that he who has been swallowed by an enemy whose very touch has so often proved deadly, might be numbered with the dead, and would never appear on the field again. *Point du tout*. Watch the victor for a little, and you will find that ere an hour elapses he again opens his wide mouth, and disgorges from his greedy maw his imprisoned victim, *minus* the worm, which the conqueror has by this time digested, but otherwise unscathed, and as ready as ever to pursue his prey, and assert his right to it when it is captured.

There is a tribe of beautiful little creatures, sometimes called ciliated polypes, to be found in the same places as the

*Hydra*. Had not the telescope been invented, the milky way might still have been thought a white fleecy cloud spread over a portion of the heavens, instead of bright worlds, not placed in close proximity, but farther removed from each other than our sun is from our earth, and yet as numerous as the sand on the sea-shore. And had not the microscope been invented, our little ciliated polypes might have lived and died till time was no more, without one human being ever dreaming that they were living creatures, or, at all events, without one human eye being capable of seeing a structure which, when seen by lenticular aid, constrains us to exclaim, How beautiful! how wonderful!

There are various kinds of ciliated polypes; but we mean to confine our attention to that section of them to which Lamarck has given the name of *Vorticella*, and only to a few of these, for he has described no less than twenty-eight species. According to his description, they are very minute, gelatinous, and transparent, having no tentacula, but having around the mouth *cilia*, which do not lay hold of their prey, but which, by an oscillating or rotatory motion of inexpressible rapidity, cause the water containing the animalcules on which they feed to enter their mouth as a little whirlpool or vortex, and hence the diminutive term, *Vorticella*.

The first that I ever observed was one of the most beautiful and most conspicuous of them—the arborescent *Vorticella*. I had brought from a pond a handful of aquatic plants, and having put them into a vase with fresh-water, I soon found, as I expected, that I had made several green *Hydræ* prisoners. While I was watching their move-

ments, I observed a sudden jerk in something that had been too small to attract my attention so long as it remained motionless. Fixing my eye on it, it increased in size, and having remained motionless for a little, by another sudden jerk it became so small that it was almost invisible. Having watched these changes for some time, I saw that it had life, and bringing it near to the side of the glass, and employing a pretty powerful lens, I saw that what to the naked eye had seemed a little transparent haze, was a beautiful little creature, unlike anything I had ever observed before. It was in the form of a little crystal shrub, the branches of which were dichotomously divided, every branch terminating in what resembled a little bell-shaped flower. Further observations led me to know that the sudden changes of size were effected by a beautiful peculiarity of organization,—that the stem and the branches, finer than the thread of a spider's web, were not straight, but spiral, like the springs formed of spiral wires; that it could coil and uncoil these elastic springs at pleasure; that it rose to its full dimensions when seeking its food; and that when the rough wave conveying some rougher substance was passing over it, I conjectured that it might be consulting its safety by shrinking almost into nothing, as brave soldiers show their wisdom by falling flat on the battle-field when cannon-balls and grape-shot are passing over them, that when the enemy have wasted their strength, they may rise and rush upon them.

We have already mentioned that the lips of the little cups which adorn the *Vorticella* are furnished with cilia,

which by a rapid rotatory motion cause currents full of animalcules to enter the cup, which proves to them the cup of death. Alas! for these little entities! but their day is over; they enjoyed life while it lasted; they have answered the ends of their being; their sufferings are momentary. Alas! there is a more dreadful gulf which rational creatures are commanded to shun. The currents around it have a most absorbing influence, and it never returns what it has once swallowed up. "Avoid it, pass not by it, turn from it, and pass away." The crystal cup of the *Vorticella* is not the only cup of death. It kills but the body: there is another cup that kills both body and soul. "Look not on the wine when it is red, when it giveth his colour in the cup, when it moveth itself aright: at the last it biteth like a serpent, and stingeth like an adder."

The next that came under my notice was also in fresh-water—*Vorticella stentoria*. This is quite a giant among this pigmy race, for when fully developed it measures—not half a fathom, nor half a foot, nor half an inch,—but half a line, which is the twenty-fourth part of an inch. This, as well as some others, has been separated from the *Vorticella* by generic name, and there is good ground for the distinction, for it is not fixed by a stem like the *Vorticella* proper, but is without a stem, and in shape resembles a trumpet or horn, not unlike the figure of a cornucopia. Though generally seen in a state of attachment, it can disengage itself and launch into the deep, and swim with considerable rapidity, for the numerous cilia that adorn its ample mouth act as so many paddles. When swimming, the sharp point

of attachment is drawn up, so that instead of resembling a horn it is like a round-bottomed bag. The ciliated band round the mouth is somewhat spiral, giving additional elegance to its appearance ; and it may be useful as well as elegant, acting probably as a purse-string ; and woe to the little monad on whom that devouring purse closes : there is no escape. The *Stentors* are of different colours, some red, others green or blue, and some of them have the body as well as the mouth garnished with cilia, doubtless to increase their powers of locomotion.

The *Vorticella* that was next discovered by me was a very minute, but I am persuaded, a very common one, though from its diminutive size very seldom observed. In the month of October I placed a tumbler of sea-water, in which there were some Nudibranchs, in a dark closet, not by way of punishment as naughty children, but because, being in the habit of living under stones, they cannot long bear the full light of day. Having made the observations I wished on the Nudibranchs, I returned them to the deep, and set the tumbler with the water in it on the mantel-piece. After some time I observed little dim specks on the inside of the glass, and applying to them a powerful lens, to my surprise I found that these almost invisible dots were replete with life and beauty. From the centre from twelve to twenty crystalline filaments arose with a graceful bend, each terminating in a ciliated cup, thus forming an elegant little branched *Vorticella*. It differed from the one I first mentioned, not only by being much more minute and more fastigate, the



first being rather dichotomous and the terminating cells placed at different heights, but also as being less lively, not having the habit of suddenly collapsing, but continuing in an unfolded state. “*Vorticellæ*, in general, can bend and turn and twist in all directions; they can almost cast a knot on their tender and delicate stems. Microscopic shrubs composed of similar animals, hundreds of campanulate *Hydræ* terminating their extremities, while at their highest enjoyment of full expansion in some favourable position, will suddenly collapse on a momentary alarm, crouching close down to its roots in absolute quiescence. Then, as if relieved from the apprehension of danger, they rise again to display their beautiful proportions.”

What struck me as remarkable in this “minim,” was, that it seemed indifferent as to its element, whether fresh or salt water; for having kept fresh water in a tumbler for some weeks, I was surprised to find the *Vorticellæ* as numerous in it as in the sea water. To all appearance they were the same species, and yet had they been examined with a microscope of higher power, a difference might have been evident. Or had I, by way of experiment, changed the water, it might to them have been fatal, for fresh water might have been death to the child of the briny waves, and sea water might have poisoned the offspring of the fountains of water. Since I wrote the above, my doubts have been removed by my chancing to light on a passage in the valuable work of the late Sir J. Graham Dalzell, who, by a long-continued course of experiments and observations, was so remarkably well acquainted with the

nature and habits of our Scottish polypes. He says, "Purity of the element in which zoophytes dwell, seems more essential than sustenance. Slight contamination is frequently fatal after the briefest interval. *Neither can fresh or salted water be substituted for each other with impunity.*" From this we may conclude that the *Vorticellæ* in the fresh and the salt water were different species, though by the aid of a Codington lens I could not detect the minute distinctions.

Passing many little creatures worthy of our attention, I shall close this chapter with an account of *Plumatella repens* which I wrote for a periodical, when this little beauty had to me the charm of novelty.

It is called *Plumatella*, which is a diminutive of the Latin word signifying *plumed*; and the specific name *repens* is given, because it is generally found creeping along the under surface of stones and of leaves. It has been seldom found in Scotland. When taken out of the water, it has no beauty to attract the eye; but when replaced in the water in such a position as that it can be contemplated with the aid of a lens, what is beheld is both beautiful and wonderful. When regarded with the naked eye, all that at first is seen is the appearance of horny, leafless branches proceeding from a centre, and setting out at short intervals along the branches, and generally in pairs, what seem like leaf-buds. In a little, however, there is the appearance of life, and what was a naked leafless branch assumes a downy appearance. The cause of this, by narrow inspection, can be ascertained even with the naked eye. By the aid of a lens, however, the

nature of the change is much more evident. You then see that the branches are tubes, inhabited by living creatures ; —that long bud is a cell, the dwelling-place of a polype ; that there may be above a hundred of these clustered together ; and that as one stone may have several distinct *villages* planted upon it, the whole population of a district of six square inches may be upwards of a thousand. The first symptoms of life that the observer perceives is the polype, which had shrunk out of sight on being disturbed, pushing forward to the mouth of the cell, as if to reconnoitre. If all is quiet, you will soon see the polype, in the form of a little white rod, protrude from the cell in a horizontal direction. This rod is composed of a bundle of tentacula, amounting to about fifty. The next change that takes place is the unfolding of the tentacula ; not in the star-like form assumed by the *Hydra*, but in the form of two horse-shoes, the one enclosing the other. The outer and larger horse-shoe is spread out like a lady's ivory fan. The inner range is unfolded in the same manner, but it is of smaller dimensions. There is something remarkably elegant in this form of the polype ; and though it is the more usual aspect, it is not the only one. There is another of still greater elegance, which seemed to be a favourite one, and which we have seen assumed by above a hundred of the polypes at once. In this case, the outer range, consisting of twenty-six tentacula, was spread out in the graceful manner we have mentioned. The inner range, however, was made to resemble an elegant pavilion, the opposite tentacula meeting together at the top in the form of a Gothic arch. Taking a survey of

the whole, however, it had the appearance of a tented field, where a miniature army lay encamped ;—or, as there was so much more grace and elegance than soldiers' tents exhibit, you were led to think of some splendid tourney, where the princes and nobles of the land had in all their pomp assembled, vying with each other in the magnificence of their pavilion, with which the plain far and wide was studded.

And gay as it was, it was a field of warfare. The polypes were not the only inhabitants of the watery plain : it was inhabited also by *infusoria* ; many of which, green, and white, and grey, could be seen with the naked eye, wantoning in all the joy of active life. It was to trepan these little thoughtless “minims of nature” that the tentacula of the *Plumatella* were thus artfully spread out. Elegant as the arched pavilion might appear, it was to them the chamber of death. Means unseen were employed to lure the little sportive animalcules into the well-laid snare. Every one of the feelers was fringed with numerous cilia, too minute to be seen without the aid of a powerful microscope ; and which were constantly in motion, to produce currents which might insensibly draw the little infusories into the inner or outer enclosure like Scylla and Charybdis, prepared for their destruction. Let them but touch, in their heedless gambols, one of the extended feelers, and, with the suddenness of the lightning's flash, the whole were closed and withdrawn into the cell ; and by the very act of withdrawal, the cell was shut, and escape rendered utterly impossible !

What has been said respecting the beautiful *Plumatella*

may serve to “point a moral,” and to teach us some lessons of wisdom.

We blame not the *Plumatella* for catching its prey—it is guided by instinct in doing so ; and even though it had been guided by reason, it would have been as little reprehensible as the wild Indian, who subsists by his skill in fishing and in the chase : and yet it may remind us of those who are deeply culpable, and have a fearful responsibility. In looking at the beautiful pavilion-like display made by the *Plumatella*, though the natural feeling is that of admiration, we may, by no very unnatural process, be led to think of the tents of sin—of the palaces of pollution—reared by those who make merchandize of souls ; who, for “filthy lucre,” ply every wile suited to the corrupt propensities of the human heart. In looking at the little infusories on the verge of destruction, I could not help thinking with pity on the multitude of infatuated mortals who “go as oxen to the slaughter,—as birds to the snare, and know not that it is for their life.” In them we might regard as verified the ancient fable of warriors changed into swine by partaking of Circe’s cup : and when the fable tells how the veteran chief was preserved from falling under the power of the enchantress, by an herb given him by a friendly deity, should we forget, that even to those whom the cup of sinful pleasure has degraded and sunk below the level of the most polluted of the brutes, there is offered free access to the tree of life, “the leaves of which are for the healing of the nations ;” of which if the degraded eat, they are raised not only to the rank of men, but are made partakers of the Divine nature,

“being renewed in the whole man after the image of God.” How thankful should we be that the way to this blessed tree is, by Him who loved us, laid open to all; that it can, not only keep us from the fascinations of sinful pleasure, but bless us with exalted pleasures during our earthly pilgrimage, and bring us to a land of eternal joy. Child of the dust! wilt thou reject the gracious offer? Wilt thou put away from thee the richest blessing, to drink deadly poison from a gilded cup? “When sinners entice thee, consent thou not.” When pleasure plies her deceitful wiles, know that “by her many have been cast down wounded, and many strong men have been slain.” “Enter not then into the path of the wicked; go not the way of evil men. Avoid it, pass not by it; turn from it and pass away.” Say, “One thing have I desired of the Lord, and that will I seek after, that I may dwell in the house of the Lord all the days of my life, that I may behold the beauty of the Lord, and inquire in His temple; for in the time of trouble He will hide me in His pavilion; in the secret of His tabernacle He will hide me; He will set me upon a rock.”



## CHAPTER XI.

“ Great Ocean ! strongest of Creation’s sons,  
Unconquerable, unrepoused, untired,  
That roll’d the wild, profound, eternal bass  
In Nature’s anthem, and made music such  
As pleased the ear of God ! Original,  
Unmarred, unfaded work of Deity,  
From age to age enduring and unchanged,  
Majestical, inimitable, vast.

. . . . .  
Thou bowd’st thy glorious head to none,  
Heard’st none, to none did honour but to God,  
Thy Maker, only worthy to receive  
Thy great obeisance !”—*Pollok*.

TWO lovely days had passed over our heads, and the 3rd of June seemed resolved to be fully as delightful as its predecessors. After morning worship and breakfast we set out for Lamlash, intending, however, to spend some time on the strand at Whiting Bay. We were joined by my sister-in-law and my daughter Isabella, who had been for some days with our friends at Silver Bank, during which time they had collected some good Algæ on the shore—*Griffithsia setacea*; *Enteromorpha clathrata*; *Mesogloia virescens*; *Nitophyllum laceratum*; *Callophyllis laciniata*;

*Calithamnion corymbosum* ; and magnificent specimens of *Polysiphonia parasitica*. These were found in pools, growing on the purple scurf on the rock forming the basis of *Millepora polymorpha* (*Hildenbrandtia rubra*?) We found also a Medusa. The external covering was very conical, and clear as crystal, and the body of the little beauty was full of granules of the richest vermilion colour. It was somewhat injured when found, but a figure of it taken by Margaret was shown to Mr Alder, who thought that it was *Thaumantias piléata* of Forbes. Isabella handed me an Alga which she had gathered, and I would have cast it away as something common, in a state approaching to decomposition, had she not asked me to observe how tough it was. I found that it was nearly as elastic as india-rubber. I sent it to Dr Dickie, King's College, who has kindly resolved several of my algological doubts, and I learned from him that it belongs to the new genus *Micromega*, having the frustules of *Schizonema*, but with a continuous frond.

Among the trap dykes, which are so numerous at Whiting Bay, we found an *Echinus*, which congregates in the pools, but which, I suspect, has not yet been described. I mentioned it on another occasion as a variety of *Echinus lividus*, but I now suspect that it is different. It resembles in hue and form *Echinus miliaris*, but it is of far greater size. Among the same trap dykes David found a fine specimen of *Acteon viridis*, and as no plants of *Codium tomentosum* were at hand, it would appear that the woolly filaments of that plant are not its only diet. He caught also a fine little Nudibranch, which was quite new to us. On showing it to



Mr Alder, he told us that it was *Triopa clavigera*, which was so much admired by Müller, who first described it, that he begins by saying, "How wonderfully the great Creator has adorned this beautiful little creature!" I shall not attempt to describe it, but we shall have justice done to it by-and-by, by the pencil of Mr Alder or Mr Hancock. Leaving the shore we sauntered on towards Lamash.

Next day, the 4th June, was as sweet and lovely as heart could wish. Major Martin had arrived from Ardrossan, and, as he had a dredge of his own, it was arranged that he should go in a boat by himself, and that we should go in another along with Mr and Miss Alder. The boats crossed and re-crossed each other in the bay. At first we were very unsuccessful. The boatman, that we might lose nothing that entered his dredge, had covered it all with stout canvas. This was well intended, but it did not answer the purpose, for the canvas being thick retained the water, so that as we moved rapidly along a whirlpool was formed in the dredge, which swept out everything that was scraped up, and when hauled up we had nothing but a bagful of water. We tried a small dredge of Mr Alder's, with which we were tolerably successful.

Our first haul brought up only tangle. Every frond of it was subjected to a strict scrutiny before it was returned to the deep. We shall allow much to pass in silence—many pretty *Lepralie*, for instance. What we are next to mention abounded on several of the sea-weeds; and we mention it because, though very common, it is often not observed, or not understood. A very intelligent lady, a sincere lover of

nature, sending me lately some algæ and adhering zoophytes to be named, said, "But what are these little white comfits with which the seaweed is studded?" The comfit was a little spiral shell, adhering by the base to rocks, seaweeds, &c., whose whirls, or volutions, are placed laterally, so that the last whirl is on the outside, forming the margin. There are various kinds, two of which are very common—the one in question, which is without gloss, the other, called the *lucid spirorbis*, as it is glossy and pellucid. It is smaller than the other, but more beautiful; the last whirl generally projects upwards, and is free, unconnected with the object to which the others adhere. Along with *spirorbis*, which abounded, there were many specimens of *serpula*, nearly allied to *spirorbis*. The most common one is *serpula triquetra*, which also adheres to stones and shells, or twists round the stems of seaweeds. I probably would not have mentioned either *spirorbis* or *serpula*, had I not wished to direct the attention of my young readers to the beauty of the animals that inhabit them. When you remove them from their native element, you see nothing but the shelly habitation; but it is no difficult matter to induce the inhabitants to put out their heads—and their heads are worth seeing; they are beautiful. Place the stone or shell to which they adhere in a basin of sea-water, and in a little while the whirled spirorbus will push out from the mouth of its contorted domicile its head, furnished with ciliated tentacula, and a somewhat funnel-shaped proboscis, and outvying the spirorbis, the serpula will straightway exhibit two feathery tentacula, and a trumpet-shaped proboscis. The proboscis

is finely striated, and its margin crenated, while the tentacula are beautifully barred with various colours ; and what surprised me was, that, on the same stone, individuals apparently of the same species differed so much in colour ; in one red, in another blue, green, or yellow, being predominant. Some of the other species of *serpula* are still more distinguished for beauty. One of the largest is *serpula tubularia* ; but it is much less common than the species of which we have been speaking, though not unfrequently coming up in the dredge attached to an old bivalve shell. In its young state, it is generally cemented all along to the surface of the valve ; but having reached the margin, it continues its growth, so that at times two or three inches of the tube are free from the shell, gradually widening till it equals in diameter a goose quill, and ending somewhat like a trumpet. The tube externally is white, but the trumpet-mouth is often of a rosy colour. “ Within this cylindrical tube,” says Professor Harvey, in his very interesting “ Seaside Book,” “ the animal can wholly retreat, closing the aperture by means of a shelly plate affixed to a fleshy horn which rises at one side of the mouth. When the animal displays itself, as it opens while seeking for its prey, its head, surrounded by the richly-coloured collar of gills, composed of numerous slender pieces, pectinated on their inner faces, and spreading like a starry flower, is protruded for some distance from the tube ; and here it waits, ready to seize on any small animal whose curiosity or misfortune may lead it within the reach of its jaws.”

While dredging on another occasion, outside of the loch to

the north of Clachland point, we got *Crenella marmorata*, and *Eunice tubicola*. *Crenella marmorata* has been repeatedly dredged nearer to Corrygills, by Major Martin, and always buried in clusters in the coriaceous coat of *Ascidia rustica*. We used to regard this as *Mytilus* now *Crenella discors*; but Professor Forbes, in his excellent history of British Mollusca, now in the course of publication, points out the difference betwixt the two. *Crenella discors*, instead of burrowing in the coats of *Ascidia*, may be found among the roots of *Laminariæ* and *Corallines*. In the Irish sea, off Anglesea, it is found in strong currents, enveloped in nests formed of fragments of *Flustra foliacea* and masses of sand agglutinated together, and combined by byssal threads. *Eunice tubicola* is, as the specific name implies, one of the annelids that dwell in tubes. The tube of this one is like a small quill. You may have an idea of the animal that inhabits the tube by examining the very common, but very curious lug-worm (*Arenicola piscatorum*) inhabiting the sand, and dug up as bait by fishermen. One of this tribe of tubicular annelids (*Sabella alveolata*), though common, I believe, in many places, I have never seen in the West. We gathered it in abundance in Ross-shire, on the shore near Fortrose, opposite to Fort-George. I understand that it is very often attached to rocks and stones, but all the specimens I saw of it in Ross-shire were attached to the roots of the great tangle. The tubes were formed of sand, but they were very inferior in workmanship to a sand-formed tube, some specimens of which we dredged, but which are more frequently found buried in the sand in shallow water.

In this case, however, the tubes are not cemented together, like those we have now mentioned, but each cell is separate. Many must have seen *Pectinaria Belgica*, as it is called by some, or the golden-headed amphitrite, as it is called by others. The empty tubes are often found in considerable abundance on the shore after a storm, two or three inches in length, and at the upper end about the thickness of a goose quill, but tapering gradually towards the other end, which is not half the thickness. It is formed, you would say, of a kind of sand-paper, for it is smooth as paper, and so thin as to be, in some degree, transparent; and in reality this elegant little tube is wholly made of particles of fine sand closely cemented together. We have heard of a certain clever personage attempting, but unsuccessfully, to form ropes of sand; but here we have a handsome house of sand, which at times you may find on the shore inhabited; and if placed in seawater you will soon see protruded in part from its mouth the golden-coloured head, and the forefeet of the inmate of this tastefully constructed tube. There is another one which is still more frequently found on the shore, *Terebella conchilega*. The tube in this case is formed of sand and a sprinkling of broken shells, with a greater admixture of gelatine than the other, for it can be bent without breaking.

While the investigation was going on my young companion had been keeping a good look-out for nudibranchs, in which he had been encouraged by finding one that was new, to which Mr Alder, in figuring it in his beautiful work for the Ray Society, had given the name of *Eolis Lands-*

*burgii*. They are almost sure to escape the notice of the unpractised, because, when removed from the water, they roll themselves up in small bulk, and seem a shapeless mass of gelatine on the seaweed to which they adhere. *Eolis alba*, *Eolis Coronata*, and *Eolis Drummondi*, were found ; but they were not valued, because they were not regarded as rare. At last he found one that he considered quite a prize ; for, on being placed in a phial of sea-water, we saw that it was new to us both. A graceful form exposes nudibranchs to danger, as well as creatures of a more exalted rank. The beauty of this little marine mollusc led us to send it, all alive in its crystal cage, all the way to Newcastle-on-Tyne, where it was heartily welcomed by Mr Alder, who pronounced it both rare and beautiful—*Pterochilus pulcher*, to be figured in the monograph to which we have already referred.

Lengthy as we have been in the description, the examination of the seaweeds did not in reality occupy many minutes. No sooner did our boatman give notice that the dredge was heavy, than we heaved the weeds into the sea ; and having hauled the dredge we emptied its contents on the board across the bow. This time it was chiefly filled with millepore sand and broken shells. There were some fragments also of *Spatangus purpureus* of greater size than any we had ever got alive. Several beautiful specimens of *Echinus miliaris*, and *Amphidotus roseus*, made their appearance ; but as they were not much wished, they were cast back into the sea ; and I doubt not they felt particularly obliged by being thus summarily dismissed from our pres-

ence. In some of the broken bivalves there were lodged masses of transparent jelly, which, on being placed in a tumbler of sea-water, turned out, as we expected, to be beautiful *Ascidia*. Among them was *Ascidia virginea*; but there were others of still greater beauty, with whose names we were unacquainted. We got one specimen of *Lima Luscombii*, which is rather rare on the west coast. A valve of the much rarer *Lima subauriculata* was observed, but it was of small size, and of no value except that it gave the hope that an entire specimen might be found.

Hitherto we had kept within the bay, but as the day was very calm and fine we thought that we would try the ground on the outside of the island. Steering clear of the rocks by which the Holy Isle on this side is girt, and which are richly fringed with gigantic *Alaria* and tangle, we let down the dredge, which soon brought up a mixture of sand and broken shells, which on being searched yielded some little things for the cabinet. Among other things, we got some good specimens of a pretty *Pecten tigrinus*, of which there are several varieties. One or two specimens also were found of what I at first hoped might be a new *Pecten*, seeing that on one of the valves there were many little prickles. I afterwards found that it was *Pecten striatus*, which, because of these prickles, when young, had been named *Pecten spinosus* by one, and *Pecten aculeatus* by another conchologist. The usual size of this fine shell is only about half an inch in length and rather less in breadth. One of the finest specimens ever seen of this *Pecten* I had the honour of receiving from Lady Emma Campbell, dredged near Inveraray. It is

eleven lines in length, and about as much in breadth. A subsequent haul near this place brought us up several specimens of *Dentalium entalis*, which, though often found in dredging, was prized by us, as we had never once found it drifted out on the shore. Some specimens of *Trochus millegranus* were found adhering to *Laminaria*, and some among the sand. Two specimens of the beautiful milk-white *Eulima polita* were added to our store, and one or two young specimens of *Terebratula caput-serpentis*, which would have been mightily prized some years ago, when first discovered as British by Professor Fleming, but which has considerably fallen in value in consequence of being dredged by several naturalists in considerable abundance at Oban, and in Lochfine, where they are at times found in beautiful groups, clustered on old shells, and sometimes one upon another.

The most interesting, though not the rarest thing we got was a nest! But what sort of a nest was it? Surely neither fish nor shell-fish have nests! Yes; both have. The three-spined Stickleback (*Gasterosteus aculeatus*) little more than two inches in length, with lower jaw and belly often of a bright crimson, which we all delighted to catch and admire when in childhood's days we "paidled in the burn," constructs a nest. So also does the Fifteen-spined Stickleback (*Gasterosteus spinachia*), which frequents our coasts. It uses a thread of its own making in forming the nest; and most diligently it guards, and most bravely does it defend it. Shell-fish also may have nests. That which we at this time found was the nest of *Lima hians*, I had



before this some specimens of this pretty bivalve, and I had admired the beauty and elegance of the shell; but hitherto I had been unacquainted with the life and manners of its inhabitant. Not so Miss Alder, who, when she got a cluster of the coral cohering in a mass, surprised me by exclaiming, "O, here is a *Lima's* nest!" and on breaking it up the *Lima* was found snug in the middle of it.

The coral nest is curiously constructed, and remarkably well fitted to be a safe residence for this beautiful animal. The fragile shell does not nearly cover the mollusk—the most delicate part of it, a beautiful orange fringe-work, being altogether outside of the shell. Had it no extra protection, the half-exposed animal would be a tempting mouthful—quite a *bonne-bouche* to some prowling haddock or whiting; but He who tempers the wind to the shorn lamb, teaches this little creature, which he has so elegantly formed, curious arts of self-preservation. It is not contented with hiding itself among the loose coral, for the first rude wave might lay it naked and bare. It becomes a marine-mason, and builds a house or nest.\* It chooses to dwell in a coral grotto. But in constructing this grotto, it shows that it is not only a mason, but a rope-spinner, and a tapestry-weaver, and a plasterer. Were it merely a mason it would be no easy matter to cause the polymorphous coral to cohere. Cordage, then, is necessary to bind together the angular fragments of the coral, and this cordage it spins; but how it spins it is one of the secrets of the deep. Somehow or another, though it has no hands, it contrives to intertwine this yarn which it has formed among the numerous bits of

coral so as firmly to bind a handful of it together. Externally, this habitation is rough, and therefore better fitted to elude or to ward off enemies ; but though rough externally, within all is smooth and lubricous, for the fine yarn is woven into a lining of tapestry, and the interstices are filled up with fine slime, so that it is smooth as plaster-work, not unlike the patent Intonaco of my excellent, ingenious friend, Mrs Marshall. Not being intended, however, like her valuable composition, to keep out damp or to bid defiance to fire, while the intertwining cordage keeps the coral walls together, the fine tapestry mixed with smooth and moist plaster, hides all asperities, so that there is nothing to injure the delicate appendages of the enclosed animal. Tapestry, as a covering for walls, was once the proud and costly ornament of regal apartments ; but ancient though the art was, I shall answer for it that our little marine artisan took no hint from the Gobelins, nor from the workmen of Arras, nor from those of Athens, nor even from the earliest *Tapissiers* of the East. I doubt not, that from the time Noah's Ark rested on the mountain of Ararat, the forefathers of these beautiful little *Limas* have been constructing their coral cottages, and lining them with well-wrought tapestry in the peaceful Bay of Lamlash.

When the *Lima* is taken out of its nest, and put into a jar of sea water, it is one of the most beautiful marine animals you can look upon. The shell is pure and elegant, and the colour of the body of the animal within the shell is "often very beautiful, varying from pale crimson to intense vermilion ;" while the mantle lobes are often tinted with

orange, and highly ornamental. Instead of being sluggish, it swims about with great vigour. Its mode of swimming is the same as that of the scallop. It opens its valves, and suddenly shutting them, expels the water, so that it is impelled onwards or upwards; and when the impulse thus given is spent, it repeats the operation, and thus moves on by a succession of jumps. When moving through the water in this way, the reddish fringe-work is like the tail of a fiery comet. The filaments of the fringe are probably useful in catching its prey. They are very easily broken off, and it is remarkable that they seem to live for many hours after they are detached from the body, twisting themselves like so many worms.

How prone are we to forget the Creator, even when we are speaking of his wondrous works!—to rob Him of his glory, and to take to ourselves the praise! How ready are we to sacrifice to our own net, and to burn incense to our own drag! “Is not this great Babylon, that *I* have built for the house of the kingdom, by the might of *my* power, and for the honour of *my* majesty?” How apt are we, in admiring the skill and operative dexterity of the inferior animals, to admire them without adoring Him who teaches them instinctively to perform what calls forth our wondering admiration!

I shall here mention two rarities from the bottom of the sea, which, however, were obtained off Cumbræ. The one was a large *Balanus*, the specific name of which, according to Brown’s illustrations, seems to be *Candidus*. It is by far the largest *Balanus*, or acorn shell, I ever saw. It was

alive when sent to me by the fishermen, who got it off Cumbræ, and as I put it into a vase of sea water, it lived for several days; but it was too far gone before it reached me to open the valves of its operculum, and send forth the *Cirrhus*, which would have been as large as an infant's hand. Its shelly receptacle, by which it was fixed to the rock, was exactly eight inches in circumference, and its length when it pushed out the valves of the operculum, was almost five inches.

The other rarity, which it would be improper to omit, is a rare sponge, with a very jaw-breaking name, even *Hali-chondria infundibuliformis*, but we shall speak of it by its English name *Funnel sponge*. This is regarded as very rare. Montague had never seen it when he published his work on sponges. I think, however, almost a dozen have passed through my hands, got from Cumbræ. I had the pleasure of sending a specimen of it to my good friend Dr Johnston, when he was preparing his work on sponges, and he, or rather his talented lady, did it the honour of figuring it for his book. These sponges are generally found attached to stones, and when placed in the cabinet with the stone as a pedestal, they are very handsome marine cups, very like in shape to a silver porter cup. I shall subjoin a portion of Dr Johnston's description of it:—"Sponge, forming a funnel-shaped cup, about three inches high and the same in diameter; the cup gradually evolving from a very short stalk, and rooted by a moderately spreading base. The texture and colour is uniform and spongy, finely reticulated, or rather porous; the walls about the eighth of an inch in

thickness; and the rim brought to an edge, even, or sinuated, or fissured. Surface even and alike on both sides, excepting that the interior is more compact; oscula none. This fine sponge is the British analogue of the Neptune's-cup of the Indian ocean; and while it is vastly inferior in capacity, it excels the tropical species in neatness of texture, and in sponginess."

But if sponges resembling those of the Indian Ocean are found in the Bays of Cumbrae, are there none of the wonder-working corals of which poets so frequently sing, and which naturalists have found so intensely interesting, to be had in the waters of Cumbrae or Arran? Not in either of these places. Yet Scotland can lay claim to one species of true coral.

About ten years ago, I sent to Dr. Johnston a specimen of coral from Norway, which he returned named *Oculina prolifera*, saying that he was glad it was to be found in Norway, as this gave hopes that it might be got in Orkney or Shetland. Soon after this I had the pleasure of hearing that a noble specimen of it, weighing six pounds, had been dredged in the Hebrides, and was in the possession of my much-valued friend Professor John Fleming. It occupies an honourable niche in his cabinet. It is worth treasuring up and rejoicing over, and he showed it to me with no small gratification. By that time, however, I had a specimen of my own, though I am constrained to acknowledge that it is not quite equal to his in magnitude. When in the summer of 1850, I was on a visit to Mr Cowan, Airds House, Appin, I called on Mr M'Millan, at Ardtur, formerly the

residence of the late Captain Carmichael, well-known as a distinguished naturalist, and looking round to see if there were any remains of those objects that had long occupied the attention of the former scientific resident, I saw, with surprise and delight, on the mantelpiece, a very respectable specimen of my old Norwegian acquaintance *Oculina prolifera*. I made particular inquiry as to when and where it was obtained, and Mr M'Millan told me, that when his brother occupied a large farm in the island of Barra he had been in the habit of collecting rare shells for a relative of theirs—a lady of rank in England; that this had been procured at that time, but not being a shell it had not been forwarded to her. I took good care to give no hint by my tongue how I would like it to be disposed of, and I hope my eye did not proclaim its covetousness. Be that as it may, it was sent to me next day, and I retain it on account of its great rarity, and as a memorial of a remarkably pleasant visit to Appin. It is a good stout coral, fitted to brave the storms of the north-west Hebrides. I may mention that, though I did not become possessor of the Norwegian specimen, which I had been only permitted to send to Dr Johnston for his inspection, I was made welcome to the shells—*white mussels* as its owner called them—that were ensconced in its branches. They were a few specimens of *Terebratula caput-serpentis*, then regarded rare, and one specimen of the very rare *Terebratula cranium*!

On returning to our lodgings I had the pleasure of finding that my excellent friend, the Rev. Mr Stevenson, from Ayr, had come to spend a day with us. He came for a botanical

ramble. Next day we visited Ross-hill, and I was glad that several of the Highland plants gathered were new to Mr Stevenson, who greatly enjoyed the excursion. He has so wide a field of labour before him at home, and he is so willing to spend and be spent in his Master's service, that his friends are at times afraid of his being worn out. (He has since died, worn out, while little past his prime.) In seeing this faithful labourer in the vineyard snatching with delight a few hours of healthful recreation, I remembered the kind and considerate command of Christ to his disciples, recorded by Mark: "And the apostles gathered themselves together unto Jesus, and told him all things, both what they had done, and what they had taught: And he said unto them, "Come ye yourselves apart into a desert place, and *rest a while*: for there were many coming and going, and they had no leisure so much as to eat. And they departed into a desert place by ship privately." It is of importance to remember that Jesus was of the party; and if we wish our rest and recreation to be innocent and salutary, let us make a point of having Christ, though unseen, along with us. I must confess that I also remembered a ludicrous anecdote told me by a respectable old lady, which shows how differently actions may be viewed, according to the opinion we entertain of the persons by whom they are performed. When the late worthy Mr Bonar, minister of Cramond, was a young man he resided some time in the West, and was greatly respected and beloved. In a country place, not far from Paisley, a person observing a gentleman, with some ladies, ascending an adjoining hill, said to a woman whom

he met, "Who is that going up the hill?" "It is the minister," was the response; "and it's just like him, idle, light-headed gomeril, firtin' about and speeling hills wi' a set o' glaikit hizzies." "That's no *your* minister," said another person who was passing—"that's Mr Bonar." "Mr Bonar!" said she; "is't him, honest man? Oh, I'm extraordinar glad to see him get ony wee amusement; he's weel worthy o't, honest man; he's wearing himself out wi' constant study and sae muckle preachin."





## CHAPTER XII.

“Hail to thy face and odours, glorious Sea !  
’Twere thanklessness in me to bless thee not,  
Great Being ! in whose breath and smile  
My heart beats calmer, and my very mind  
Inhales salubrious thoughts. How welcomer  
Thy murmurs than the murmurs of the world !  
Though like the world thou fluctuatest, thy din  
To me is peace, thy restlessness repose.  
E’en gladly I exchange yon spring-green lanes  
With all their darling field flowers in their prime ;  
And gardens haunted by the nightingale’s  
Long trills, and gushing ecstasies of song,  
For these wild headlands, and the sea-mew’s clang.”  
—*Campbell.*

**I**N the bays of Arran there is great variety of fish. In this chapter I shall write of those which have interested me most.

When dredging on one occasion with a party in Lamlash Bay, there was brought up in the dredge what we all admired, though at first when I saw it, I could not conceive what it was; nor was it till it had appeared in all its phases, that I discovered what it was in reality. On opening a scallop, I observed one of the valves lined with what seemed

*Cellepora pumicosa*, a zoophyte; but it was gelatinous, so that I concluded that it might be some kind of spawn. On opening another scallop, I found that the white dots or cells had become blackish-blue. On opening a third, I found that the generality of the dots, instead of adhering to the shell, were disengaged, and were swimming in a little water in the concave valve, like a number of sparkling diamonds. On applying a magnifying glass I found that I had got a shoal of little fish, and that their sparkling eyes were the diamonds. I saw, moreover, that round the edge of the patch many of the dots were still adhering; and that round the head and eyes, which were prominent in the centre, the body of the little fish was wrapped, pretty much in the manner in which the cook sends up whittings to table, with their tail in their mouth, very much, I am sure, against the will of the whittings, if they had had anything to say in the matter; but a most easy and elegant position for these nascent gelatinous fish. It was in the disengaged state, however, that they chiefly excited our admiration. By the aid of the lens we saw that the two eyes were the sparkling diamonds; that the body, which consisted of transparent gelatine filled with grey granules, dwindled away towards the tail, so that each little fairy fish of half an inch in length resembled a pair of tiny scissors. Prosecuting the investigation I found them half-grown, and at last full grown, so that I had the satisfaction of ascertaining that the little beauties we had so much admired were the fry of *Lepidogaster bimaculatus*, the little two-spotted sucker-fish. How wonderfully the Lord teaches the feeblest of his

creatures to provide for their own safety and that of their offspring! What a charming nursery this little sucker-fish selects for itself! It is rather nice in its choice. It is not an old, weather-beaten scallop that it takes possession of, but one that is fresh without, and smooth and pure within. After it has entered, it certainly has some way of gluing the valves together, for it is not without difficulty that they can be torn asunder. Neither is it imprisoned though the apartment is thus shut against intruders; for closely as the valves cohere, there are some little apertures about the ears of the shell through which it can make its exit with its numerous family, or by which such little creatures as they feed on may, in their simplicity, enter.

At another time, when dredging at Cumbræ, I found a beautiful little creature which I had never seen before. It was a little fish, about the size of a minnow. It had no eyes, no fins, but a membrane along the back and belly, instead of a fin, and it had a little crest on the head. When put into a tumbler of sea-water, it darted about with great velocity; but it could not keep itself suspended like a fish; for, when it ceased to move, it fell to the bottom, and lay motionless on its side. It was very pretty. I learned afterwards that it was a very rare creature—The *Lancelet* *Amphioxus lanceolatus*, at one time ranked among *annelides*. Concerning it in “Yarrell’s British Fishes” we read—“This delicate little animal, though one of the smallest of British fishes, is of very great interest to naturalists as presenting the lowest type of vertebrated animals, and possessing characters of importance in common with the class of mol-

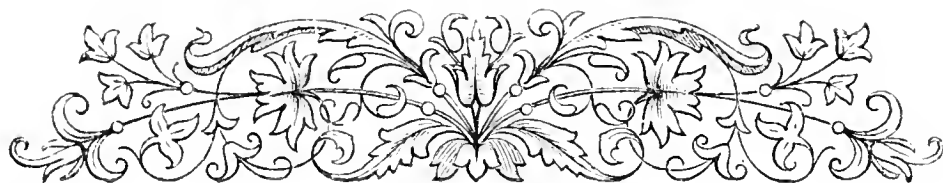
luses. At the date of the first edition of the History of British Fishes, the only known existing specimen was the one sent to me by Mr Couch."

When I first saw it in the dredge, I thought it might be the young of a very rare fish which had been got a few days before by my son, alive, under stones in shallow water. This, however, was a fully developed fish, and certainly one of the most delicately beautiful I had ever seen. It was the *Leptocephalus Morrisii*, sometimes called the ribbon-fish. In shape it somewhat resembles *Cepola rubescens*, the red band-fish, which, though rare, is occasionally got alive by our fishermen; and I have found it once or twice dead on the shore. It is a beautiful fish of more than a foot in length, but the ribbon-fish, which is only six inches in length, is like an exquisitely-beautiful miniature of the band-fish. The body is compressed, about half-an-inch in breadth, and only the twelfth part of an inch in thickness. The dorsal and ventral fins are united. The pectoral fins are small and delicate. It is of a light lilac colour, and nearly as transparent as glass, so that the shape and colour of objects could be quite clearly seen through it. The head is small. The snout is rather paler than the body. The eyes are large and beautiful. The eye is silvery with a black iris; and as the head is pellucid like the body, you can see to the very base of the eye all round, as if it were set in light pink-coloured glass. Above the ventral fin, which is fine, and consisting of innumerable rays, there is a pretty close line of blackish dots. There are also three faint longitudinal lines from the head to the tail. It was a most beautiful

creature, and was kept by me in a tumbler for a fortnight before I restored it to the sea. Its movements were full of ease and gracefulness. Such was its transparency—hence named *L. candidissimus* by Costa in *Fauna Nap.*—that we could see all its inward structure; and all its ribs, though of countless number, and not so thick as the finest hair. O! may we remember that He, whose exquisite workmanship we behold in this beauty of the deep, formed also the human heart, and that not one of the multitude of the thoughts within it can escape His notice; for He searcheth all hearts, and understandeth all the imaginations of the thoughts! If we seek Him, He will be found of us; but if we forsake Him, He will cast us off for ever! O! may we seek Him while He is to be found, and call on Him while He is near; for if in the name of our great High Priest we say, “Pardon our iniquity, for it is great,” He will assuredly be merciful to our unrighteousness—our sins and our iniquities He will remember no more.

[There is a species of fish at times found in Arran, which, from its splendid colours cannot fail to attract attention. It is the Wrasse or Rock-fish (*Labrus*). There are several species of this fish, which are not easily distinguished. Many of them are most brilliant in their hues—hence the names given to them, such as “The Golden Maid,” “The Rainbow Wrasse,” &c., derived from the blending of red and green and orange of the richest shades in the large scales with which they are invested. When fresh from the water they are gorgeous; but when exposed to the atmosphere their rich hues speedily disappear. I may also mention

that though not as yet observed in Arran, "The Flying Fish" has been seen in Ayr Harbour. For accounts of Herring fishing, see page 93 ; Haddock, 94 ; Splash-net, 95 ; Basking Shark, 96 ; Salmon, 138 ; Whale, 150 ; Sucker-fish, 273 ; Remora, 273 ; Lump-sucker, 273 ; Great Pipe Fish, 318 ; The Souter or Stangster, 318 ; The Stickleback, 372.—  
D. L. JUN.]



### CHAPTER XIII.

“Tis Love creates their Melody, and all  
This waste of Music is the Voice of Love ;  
That even to Birds, and Beasts, the tender arts  
Of pleasing teaches. Hence the glossy kind  
Try every winning way inventive Love  
Can dictate, and in Courtship to their mates  
Pour forth their little souls.”—*Thomson*.

BIRDS, whether tuneful or tuneless, have always been to me objects of interest. I shall therefore conclude this book with a chapter on some of my favourites.

*The Thristle*.—The musical Thristle or Mavis (*Turdus musicus*) causes in spring every brake and bank and brae sweetly to resound. In days of yore, when bird-nesting was my delight, notwithstanding my unwillingness to do any injury to my feathered favourites, I took one from a nest of young thrushes, and brought it up with affectionate care. It amply repaid me ; for it not only proved a noble songster, but it had an accomplishment which I think was peculiar to it—it was a notable bell-ringer. It took up this amusement, we may say, at its own hand. Thrushes in a wild state are

dexterous in breaking the shells of snails, by dashing them against stones, that they may reach the animal, which they regard as dainty food. Not having snail-shells to break, by way of pleasant exercise it was in the habit of taking up a small stone in its bill, and striking with it upon the cup which contained its food. On seeing this, I hung up a hand-bell in a corner of its cage, laying a bent nail beside it. It was not long in taking up the nail, and, having approached the bell, it gave it a stroke, and started back surprised at the success of its own performance. It soon returned to the charge, and struck again and again, and then seemed to listen with wonder. But this was too good a thing to be given up; it continued to practise it every day at intervals as a favourite amusement. When from its perch it had poured forth its thrilling song, it descended to the floor of its cage, and made the clear tones of the bell a substitute for the varied notes of its mellow voice. It was amusing to behold it; for it laid on lustily, turning its bill with the stone or nail back, as it were, over its shoulder, and bringing it down on the bell with an impetus like a little sledge-hammer.

*The Blackbird.*—My bird-nesting days are now long past, but to a true lover of God's beautiful innocent creatures, a bird's nest is an object of interest even when his head is grey. Nine years ago, the whole family got much interested in a blackbird (*Black Ouzel*—*Turdus merula*) who had built her nest in an apple-tree on the wall in our sweet garden at Stevenston Manse. She sat very closely when hatching, and though we often went up to her



nest, she never moved. When her young ones made their appearance, we used greater freedom, going close to her and speaking to her, so that she became acquainted with us. My son, a boy of fourteen, proceeded further, putting his hand to her bill and gently patting her head; and yet she sat still. On offering her food, though she would not take it out of his hand, she gobbled it up when he removed to a little distance. But, alas! she had less friendly visitors. One morning, on going to the nest, the dam was not seen, and the young birds seemed cold; and, on looking more narrowly, we saw that instead of five there were only three young ones in the nest, and a fourth one half-dead hanging by a twig. This gave us great grief. We concluded that a prowling cat had discovered the nest, and had killed the mother and some of her brood. What were we to do with the orphans? We fed them all day, and in the evening, we were glad to see the parents paying a very rapid visit to the nest, though seeming quite wild and frightened. We were pretty sure that the cruel cat would return during the night to have another feast; and we therefore took the nest into the house, and returned it to its place early in the morning. David repeated this for several nights, and we had the pleasure of seeing the mother paying stealthy visits to them during the day. We barricaded the base of the tree with thorns, and began to hope that the young birds would soon be fledged, so as to get out of the reach of their sharp-clawed enemies. One morning David awoke at three o'clock, and though it was rather too early, being afraid that he might not awake at a more suitable hour, he placed the nest as

usual in the branch of the tree. Alas! the enemy had come in the dawn; for when we went to the tree in the morning, the nest was torn down, the birds were away, and there was nothing but silence and desolation!

[*Ring Ouzel*.—On the moors and mountains of Arran I have several times seen another black-coated member of the feathered tribe. It is the *Ring Ouzel* (*Turdus torquatus*), and is about the same size as the common blackbird (the Black Ouzel), but more plump in form. Its colour is dull black, but each feather is beautifully margined with ash gray, while the breast, as the name denotes, is adorned by a conspicuous crescent of pure white, which almost surrounds the neck, and gives the bird a very striking appearance. Might it not be well named *The Parson*? If so, it would bring little credit to the order; for while the mature birds are attractive in appearance, and melodious in song, and are also high-minded, generally residing in lofty regions, the young birds, which make their appearance in the orchard just in time for the fruit, are altogether sooty and tuneless, and only give evidence of their high origin by the keenness of their appetites, which, being whetted by their mountain fare, causes them to enjoy to the full the produce of our fruit-trees. In the Rev. Dr M'Naughton's catalogue in "The New Statistical Account," this bird brings up the rear of fruit-destroying thieves as "the most numerous and pestilent of the whole." The Rev. Dr Paterson, in "The Manse Garden," does not give it a better character:—"A most pestilent fellow, a moor blackbird, without any coral on his bill, sooty, tuneless, and ill-shaped, has

of late years, like the old invaders of Italy, found the fruit of our gardens better than that of his native wilds ; and having once tasted the cherry, he cannot forget the flavour of it. He comes a host, exactly at the season of ripe fruit, and never fails, with an angry chatter, when he is disturbed, to intimate that you are as annoying to him as he is to you. He is sure to have the advantage of you in early rising, which both quickens his appetite and affords him leisure for his morning meal. He is, besides, less shy as to the quality of his food ; for whilst you are judging that your fruit has not quite attained the mellowness that is wholesome for your stomach, he is busily eating ; and that he has no complaint of acidity he proves by a readiness to fall upon your plums when he is done with your cherries. Thus, differing from you only a little as to the nice point of perfect ripeness, he makes the round of your several crops, and is about to conclude his harvest of each sort just when you have thoughts of beginning yours. Finding my sooty foe too many for me—that he was ready enough to quaff in cherry juice “A good conclusion to the harvest,” but never once to think of the sentiment, “Fair play is a jewel,”—I thought of saluting him with a little sparrow-hail, of which, on making the attempt, I observed no other effect than the provoking of that peculiar chatter by which he is wont to express his disapprobation as often as he is disturbed in his avocation. In this I felt some sympathy with my antagonist, perceiving that he regarded the hail not otherwise than I have certain visitors who had as little to say, although they did not fail to make havoc of time and hin-

drance of important duty. He lost no feathers, but merely an hour of harvest work, and yet the loss was more apparent than real ; for getting thereby a rest for rumination and whetting of teeth, he resumed, as other martyrs to small hail must do, his beloved task, and with redoubled quickness soon made amends for all his loss. Doubting whether my aim might not be erring, I inquired of an old man who was known to the premises for half a century, what in former times had been done with an enemy so untractable and persevering ; upon which my old friend, with a shake of his grey locks, which intimated that the case was a hopeless one, said, “ I dinna ken ; the doctor used to shoot them whiles, but it never did them meikle guid.”

*The Rook.*—This bird (*Corvus frugilegus*), Scottice *The Crow*, is a favourite of mine. I subjoin a brief sketch of one. He was a crow of aristocratic extraction ; at all events, he was of *high descent*, having been reared on one of the loftiest trees at Shieldhall, where his ancestors, it is believed, had had their favourite residence for many generations. When he was well fledged, he was brought down to the abodes of men, by one of the aspiring youths of Shieldhall, as a present to his aunt, Miss Oswald, and by her the pet crow, prized for its own good qualities, and loved for the donor's sake, was brought to her sweet villa at Ardrossan. Her villa was contiguous to that of Miss Hamilton of Holmhead, and our rook, having then the free use of his wings, and being of a social disposition, paid frequent visits to his neighbours, and soon formed acquaintance with the

occupants of Miss Hamilton's poultry-yard, consisting of a cock and two hens. The intimacy increased, the visits became longer and longer, till at last the crow became domiciled along with them ; and when Miss Oswald left Ardrosan, being unwilling to break asunder the ties of affectionate friendship, she left the crow in its adopted dwelling-place. The longer they were acquainted, the stronger did the friendship become, though it was evidently most ardent on the part of the crow. He was exceedingly attentive to his chosen friends the hens, and would often arrange their feathers and dress them to his own taste, though his services were sometimes rejected as officious and troublesome. The cock was a still greater favourite, and he roosted every night beside him, nestling under his wing.

After this Platonic friendship had subsisted for several years, one of the hens became sick and died. During her illness he was unremitting in his attention, waiting on her most affectionately ; but he could not ward off the stroke of death. A still greater calamity befel him, for the favourite cock also died. He was unceasing in his attention to him during his trouble, and when he died he was so disconsolate that he would not taste food for several days.

At last old age, which had carried off the others, crept on the remaining hen. When she became feeble and helpless he scarcely ever left her for a moment, striving to cheer her by innumerable little acts of kindness. There were two steps up from the poultry-yard to the house in which they roosted ; and when she became too weak to mount the steps, as he could not himself lift her up, he always came to the

kitchen window, and kept up an incessant clamour till one of the servants came out and lifted her up. For two days before her death she could not leave the roosting-house, and he remained along with her, bringing her food, laying it down before her, and coaxing her to eat it. Notwithstanding his unwearied assiduity and affectionate attention the poor hen died, and it was thought that he would not have long survived her. He was quite disconsolate. Life had lost its charm. He scarcely tasted food, and became altogether changed, so that from being lively and cheerful and active, he drooped and became timid and spiritless. Some young poultry were purchased, in the hope that they might cheer him ; but he seemed quite afraid of them and avoided their company.

After months had passed away, he gradually recovered his spirits, and became as brisk and lively a bird as you could look upon. He was no longer afraid of the inmates of the poultry-yard ; but though he associated with them, they gained not his affections. He knew all the members of the household, and took with pleasure a bit of bread or cold meat from their hands. Unfortunately he was so much of an epicure as to be particularly fond of a new-laid egg ; and when the exulting cackle of a hen proclaimed that she had deposited a treasure, there was generally a race betwixt the servant-maid and the rook, each being eager to seize the prize.

For a long time he was allowed to retain the free use of his wings, but complaints were lodged against him by the proprietors of the neighbouring villas, that he was in the

habit of perching on the roofs of their houses and of picking the lime from the *skews*, casting it up into the air. This frolic was an overt act of mischief in their eyes, but they did not take into account that it was conjoined with an act of utility, for it was only the loosened pieces of lime that he removed, and chiefly, we doubt not, that he might get at the vermin concealed underneath. As no person would become bound for his more sober demeanour, when he got into his altitudes, the poor fellow was condemned to have one of his wings clipped, that as a degraded biped he might for the future walk on the face of the earth. It was vexing to see him attempting to fly with the remaining wing, and falling down to the ground after having provokingly twirled round. The only way in which he could taste any of the departed joys of exalted station, was by mounting an old apple tree in the garden, the lowest branches of which were within his reach, and when he had reached the highest, he showed his delight by proud cawings and cacklings, for he had learned to imitate the notes of his gallinaceous associates.

He was a very cleanly bird, as his glossy plumage showed. When a pail of water was placed within his reach, he immediately entered it, and splashed it over and about him with great delight. He was still more delighted when there was a fall of snow, for he rolled himself in it, taking it up in his bill, and throwing it about with the greatest glee and merriment.

I was rather afraid that his egg-sucking propensity might bring him into trouble, and I was therefore much pleased to hear that he was cured of this. Calling on Miss Hamilton

of Holmhead (from whom I had got all my information) and inquiring for my black-coated friend, she told me that he was not only in good heart, but had become a reformed character. Some months before this, the maid-servant who had charge of him, hearing the cackle of a hen, ran to secure the egg thus announced, but blackie had been beforehand with her, and had it half-sucked before she arrived. Her ire was kindled, and pouring out a torrent of abuse on him, she put him in great bodily fear by chasing him with the besom in her hand round and round the back court. From that day to this, said Miss Hamilton, he has never tasted an egg, he has regarded them as tabooed ; and when the other servants would not believe his keeper that he was reformed, she took them out and showed him sitting beside a hen's nest with three untouched eggs in it.

But, alas ! alas ! rooks as well as men must die, and in many cases sooner than expected. The rook is known to be long-lived, and the ladies who took an interest in him hoped that he might outlive them ; but one morning not observing him going about as usual, they went to his roosting-place, and found only his feathers ; the poor rook had been destroyed, and it was thought that rats had been the merciless midnight murderers.

*The Tern.*—This most graceful bird, though it does not appear to breed in Arran, is found there of several species. It is however to me mostly associated with the Island of Cumbray. I could not easily tell how often I have visited Cumbray, but most of my visits were in the way of clerical duty, and had no reference to natural science. Some of



them were before steamers had begun to ply on the lower parts of the Firth of Clyde ; and old Mr Adam, who was then the parish minister, and a very eccentric character, used to allege that the Prince of the Power of the Air surely bore me a grudge, as in coming to them I almost always had to encounter a storm. Once, I remember, when he was depending on me for aid on a sacramental occasion, though a boat had come over for me to Portincross on the coast of Ayrshire, he began to fear that, owing to the storminess of the day, I would not venture to cross. He kept a good look out, however—saw the boat start—saw it, after many tacklings, reach the Little Cumbray, but there it disappeared. It had, from stress of weather, run into a creek, and there he thought it must remain. Again, however he saw it venturing out, and with well-reefed sail making for the strait betwixt the islands,—on such a day, owing to the strong breeze and strong tide, a dangerous passage,—and seeing the greatness of our peril, it was too much for him, and he ran into the manse. The boatmen were noble sailors, and, by the kind providence of God, we got safely into the harbour.

The Large Cumbray is an island in the Frith of Clyde, a little more than two miles from the Island of Bute, a mile and a quarter from the parish of Largs in Ayrshire, and half a mile from the Little Cumbray. It is about three and a quarter miles in length, by two in breadth. The surface is undulating, rising to the height of 417 feet. There is a flat space round the island betwixt the sea and the rising ground, but this space bears marks of having been

at one time under the sea, as the soil in some places is composed of sea-shells and sand. The climate of the island is very salubrious. I remember the old minister, Mr Adam, told me on one occasion that there had not a single death occurred in the island during the past year. The population was then about 700 ; now, I suppose, it is more than double that number, as it has become a favourite place of resort in summer, so that the village has greatly increased, and some nice villas have been built along the shore. Though, to our taste, Cumbray is too limited in its range for a place of permanent abode, we do not wonder that it is much liked as a temporary residence. The views from it are surpassed by none in the Frith of Clyde, and that is saying not a little. From the high grounds above the village they are truly magnificent. On one side you have in the distance the rugged mountains of Argyleshire—in an opposite direction you have Ayrshire and Galloway bounding the view by land, and Ailsa seen at a distance over Little Cumbray in the foreground. On the right hand you have the peaks of Arran in their grandeur, with a fine view into Glen Sannox ; and on the left hand you have Kelburn, its finely wooded banks, and the old castle of Fairlie, of classical celebrity, the sweet village of Fairlie, and the no less sweet town of Largs, memorable as the battlefield on which of old the Norwegians were routed, and better known in the present day for its attractions as a delightful watering-place. In proof of the remarkable beauty of the surrounding scenery, I have occasionally mentioned a jocular conversation betwixt the late Mr Watt of Greenock and

myself, when, many years ago, we met at a dinner-party in Edinburgh. After the usual greetings, he said to me, "I was down at Cumbray this morning." This was before the introduction of steamers and railways, and next to impossible, unless he had possessed ubiquity, or velocity little less than that of a bird. Nevertheless I immediately responded, with corresponding gravity, "So was I." He saw that I understood him, and said to me, smiling, "Was that in Leith Walk?" I said, "It was." We had both gone to see an excellent panorama of the Bay of Naples, which was then exhibited at the head of Leith Walk, and it had struck both of us as being exceedingly like the view from Cumbray;—Arran, though it had no volcano, being very like Vesuvius and the adjoining mountains, and the Little Cumbray bearing a striking resemblance to the Island of Capri.

It was at Cumbray I first saw the Terns congregated at one of their favourite breeding-places. They there in the summer season deposited their eggs, and reared their young, in numbers almost numberless, on the Allans, little flat islands in the mouth of the bay, giving much life and cheerfulness to Millport, which was then a sweet secluded marine village, having all the charm of the most beautiful scenery, and all the advantages of proximity to the sea, without any of the filth often to be found in fishing villages. The inhabitants were very unsophisticated. Few strangers visited them. One of the King's cutters generally lay there, the captain residing in a house of his own called The Garrison, which afterwards became a residence of the Earl of Glasgow. The crew of the cutter were in general young men, natives

of this little green island, and who generally married the young girls of the village. The Tern, that “clean-looking, pretty bird,” as Bewick calls it, was quite in keeping with the sweet, clean-looking place where it chose to dwell. It is often called the Sea-Swallow in England. Buffon calls it “*La Grande Hirondelle de mer* ;” and in Scotland and Ireland it is very generally called the *Pirre*, from its cry, which resembles that word ;—but the one of which we are now more particularly speaking is the common Tern, *Sterna Hirundo*, Linn. It is fourteen inches in length, thirty inches in breadth ; the bill is crimson, tipped with black ; the head is capped with black ; the throat and all the under parts of the body are pure white ; the upper parts are of a fine pale lead-colour ; the tail is forked, and the greater part of it is white. At the time I first visited the Allans, where these elegant birds abounded, mingled with the Common were a few of the very beautiful Roseate, and some also, it is probable, of the Arctic Tern. Unless a person walked warily, he was apt to step on the eggs ; for in general there was no nest, except a little hollow in the sandy soil, in which there was only occasionally a very little dried grass, on which the eggs were deposited. The eggs are three in number, but sometimes six are found in the nest. Immense numbers of the birds were continually flying around, poising themselves beautifully in the air, with their wings merrily wafting, or beating, to maintain their position. They were looking out for their finny prey, which, soon as perceived, the wings were drawn quick as thought close to the body, and, like an arrow from a bow, they shot from

such a height into the water, so as to be wholly immersed, or more rarely obtaining their prey at the expense of a partial ducking.

Montagu says, with respect to the mode of flying of some of the Terns, that their evolutions are rapid and their turns short, by which means they sometimes escape the talons of predaceous birds of prey ;—that once, when he was observing a number of Terns sporting over the water in a hard gale of wind, a peregrine falcon passed like a shot, singled out his bird, and presently coming up within the space, made pounce ; but the great dexterity of the Tern, by a quick and short turn, avoided the deadly stroke, and took a new direction. The falcon, by his superior velocity, soon regained sufficient elevation, and successively repeated his pounces ; but being still cleverly eluded, he at last relinquished the pursuit.

Regarding the rare Roseate Tern, Audubon writes, “Beautiful indeed, are the Terns of every kind, but the Roseate excels the rest—if not in form, yet in the lovely hue of its breast. As the unscathed hundreds arose and clouded as it were the air, I thought them the loveliest birds of the sea, so light and graceful were their movements.”

It is much to be regretted that through wanton cruelty, the numerous Cumbray pirres,—so light, and airy, and graceful in their shape and movements, so interesting in their wild, yet gentle, incessant cry,—have been destroyed or driven away. The native inhabitants seemed to love them, and guarded against molesting them ; but of late years, owing to the daily steamers, many summer visitors

have been in Cumbray, who, instead of delighting in the happiness of God's beautiful harmless creatures, have taken pleasure in harrying the nests, and annoying in every way these gentle Terns, so that their numbers were soon diminished; and the persecuted residue, seeking for themselves some quieter place of abode, have forsaken the Allans, so that Cumbray can no longer boast of its Roseate Terns.

*The Kittiwake.*—Though gulls of various kinds abound in Arran, I shall only notice the gentle little Kittiwake (*Larus tridactylus*), which, like many of the others, hails from Ailsa. Two years ago, I was led to take an interest in one of these pretty little Kittiwakes. A boy brought it to the door, saying he had got it in the Isle of Arran, and wishing me to buy it. I gave a sixpence for it, that I might free it from his hands and set it at liberty. I was sorry, however, to find that he had clipped one of its wings, so that when let loose in the garden it attempted to escape, half running, half flying. I saw that it would have been cruelty to commit it to the sea in that state, and therefore resolved to keep it till the feathers of the wing were grown. Wishing to make it happy in its temporary confinement, I treated it with all possible kindness; and a member of the household, to whom even the wild birds in the garden got attached, and became so tame that some of them would eat out of her hand, showed even more than her usual kindness to the poor little Kittiwake—but all in vain. It never put the least trust in any of us, even when giving it food. I think it could never forget the harsh usage it had received from its captor before it came into our hands; and could it have

spoken, we may suppose that it would have said, "*Timeo Danaos et dona ferentes.*" We got it in autumn and kept it all winter. Being in a walled garden, with its single wing it could not escape. We wished to make it as comfortable as possible during the cold winter nights, and for this purpose placed near it a barrel on its side littered with hay; but it would never enter it, and if put into it, it would not remain. To give it a resting-place removed from the ground, I laid a large stone in a sloping position against the garden wall, and this it constantly chose as its roosting-place by night. Even in the coldest winter nights, when one might have thought that its little toes would have been frozen, this hardy little three-fingered Jack kept to its favourite station, and was found on the stone in the morning. When spring returned, I hoped that the feathers of its wing would soon be so far grown that it might be allowed to return to its kindred in Arran or Ailsa, but it dwindled and became emaciated, and finally died.

[*The Golden-crested Wren*.—This smallest of all European birds, also named the *Kinglet*, and in learned language *Regulus cristatus*—all the names referring to the bright yellow or orange feathers on the top of its head—is found in Arran. It is less than three and a half inches long, and when stripped of its feathers is only about an inch. Its nest is a wonder. Like the curious nests we have all read of in tropical lands, it is suspended hammockwise by a kind of cordage from the branch of a tree, and has a little hole in its side for the entrance of Golden Top. This melodious, very agile, and active, and "most pleasing fairy bird," cannot be

mistaken. I saw it first in Strabane garden, and recognised it at once, and caught it as one does a butterfly under my hat.

*The Oyster-catcher.*—There is a sea-bird common on all the coast of Arran, as on the coast of Scotland generally, which would attract more attention did not its shyness prevent. It is the Sea-piet, or Oyster-catcher. It has also a learned name, *Hæmatopus Ostralegus*, which means the bloody-footed oyster gatherer.

This bird is of the size of a small gull. The head, neck, and back are of a deep black colour ; the breast and part of the wings, and part also of the tail, are pure white ; the feet and legs of a light red—hence its scientific name. But the remarkable feature is the bill, for it is three inches in length, arched and grooved, and is of a light orange colour. With this singular and beautiful instrument (do not judge from stuffed specimens) it opens oysters ; and when these and other shell-fish fail, it shovels with it from the rocks the limpet, proverbial though it be for its clinging power—“fast as a limpet.” The Sea-piet is the only representative in Europe of a genus found in every quarter of the world. Curiously enough, in one of its habits it resembles the ostrich. It lays its eggs on the bare ground, and does not sit upon them when the heat of the sun is sufficient to keep them warm.

*The Lapwing.*—How strange the ways in which God provides for the wants of his creatures ! The Pee-wit or Lapwing, *Vanellus cristatus*, cousin to the Sea-piet, subsists largely upon earth-worms ; but its bill is not long enough to



penetrate their holes, nor strong enough to dig the worm out. It is therefore provided with an instinct which compensates. I have kept the bird tame, and many a time observed it. When it finds an inviting worm-mound, it carefully opens the mouth of the hole; then having stamped violently with one of its feet, it stands still as a statue, with its eyes fixed upon the mouth of the hole. The worm lies secure in its stronghold, but wonders what can be the cause of so great a commotion. Finding it over, curiosity, which has proved fatal to many larger earth-worms, leads it cautiously to poke its head upwards to the gates of its castle. Quick as lightning the Pee-wit seizes it with its bill, drags it out, and gobbles it up.

Take another illustration of the care of our Heavenly Father for the little birds. Fruit, when ripe, is generally easily detached; but the blackbird, and many of its relatives, great and small, are to be provided for in winter, therefore the berries of the holly, bearberry, &c., are so attached, that frosts and storms make no impression upon them; but all winter through, they not only take the place of flowers, ornamenting these beautiful evergreens by their brightness, but also supply the birds with continuous food; while, that their fare may be varied with what is fresh, the ivy, &c., come in flower in autumn, and ripen fruit in winter and spring.]

I must now bring to a close my rambling account of Excursions to Arran. Though I have written as an amateur naturalist, I have wished to bear in mind that I have a higher vocation. While I have sought, according to my feeble

ability, to cherish in others the love of natural science, far more have I wished to cherish in myself and others the love of the God and Father of our Lord Jesus Christ. Were naturalists, absorbed in the study of nature, to forget the God of the Bible, they would be more guilty—because amidst Gospel light—than those of old who, instead of worshipping the one living and true God, worshipped birds, and four-footed beasts, and creeping things. If we give our hearts to the study and admiration of the creatures more than to the love and worship of their ever-blessed Creator, then are we making these creatures our idol-gods; and such idolatry must, in the end, prove our ruin. However amiable we may be, if the great salvation is not first and chiefly sought, we are neglecting this great salvation; and if we neglect the great salvation so dearly bought, and so freely offered, how can we escape? The brightest cherub could not tell us how to escape; for escape is impossible. We are casting from us the only remedy, and shutting the door against the only Physician, choosing strangling and death rather than life. Not eagerly to lay hold on this salvation is to neglect and despise it, and, at the same time, to despise God who sent His Son; and Christ, who shed His precious, precious blood, that it might be freely offered to the perishing. “Despisest thou the riches of his goodness, and forbearance, and long-suffering, not knowing that the goodness of the Lord leadeth thee to repentance? but according to thy hardness and impenitent heart, treasurest up for thyself wrath against the day of wrath, and revelation of the righteous judgment of God?” May none of us de-

ceive ourselves by imagining that we are religious, and love God, because we delight to contemplate the perishing works of his hand. It is our duty to contemplate these works—they are “wonderful, and sought out of all them that have pleasure therein ;” but if we neglect the greatest of all His works, the work of redemption through the blood of His Son, independent of the guilt, we are more foolish than the man who would admire the midnight taper, but would refuse to open his eyes to behold the glory of the “greater light that rules the day.” Rejecting Christ, “there remaineth no more sacrifice for sins, but a certain fearful looking for of judgment, and fiery indignation which shall devour the adversaries.”

Pardon, I entreat you, gentle readers, these parting words of admonition. By many they may not be needed ; may they be taken in good part by all ! The study of nature may be both pleasant and profitable, if conducted in a right spirit. But the hour is at hand, both to you and to me, when the most thorough knowledge of all the mysteries of nature will afford us neither profit nor pleasure, unless we have learned to know the God of nature as our reconciled God and Father through Jesus Christ. But if we have known Him as a God of mercy, through the blood of the everlasting covenant, then, though we must pass through the valley of the shadow of death, it is to enter that land where there is neither death, nor sin, nor sorrow ; where we shall hunger no more, neither thirst any more, neither shall the sun light on us, nor any heat. For the Lamb which is in the midst of the throne shall feed us, and shall lead us

to living fountains of water ; and God shall wipe away all tears from our eyes !

“ Acquaint thyself with God, if thou would’st taste  
His works. Admitted once to his embrace  
Thou shalt perceive that thou wast blind before ;  
Thine eye shall be instructed ; and thine heart,  
Made pure, shall relish, with divine delight  
Till then unfelt, what hands divine have wrought.”

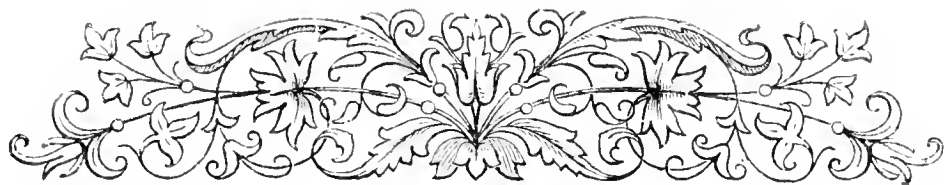
*Cowper.*

PART III.

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ANTIQUITIES OF ARRAN.





## ANTIQUITIES OF ARRAN.

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**B** RITAIN is believed to have been originally inhabited by a race that has long passed away, whose very name is unknown, and who have left hardly any memorials of their existence. They are supposed to have been hunters, who, like the Indians of America, the Aborigines of Australia, and other similar tribes, have disappeared before races more vigorous than themselves. For convenience, a name has been assigned them—Allophylians, that is, the people of a different race. Allophylian remains exist in Scandinavia as well as in Britain, and the shape of the skull has led to the inference that the race was Mongolian. The Laplanders, a primitive type of this race, may possibly be their modern representatives.

*Gaels.*—They were succeeded by the Gaels, a Celtic race, who came from Gaul (France), and settled in the central and eastern parts of Britain ; and by the Silures, also Celts, who came from the south-west of France and the north-

east of Spain, and occupied Britain's south-western districts. These Celtic nations for a time possessed the whole of Britain, and almost everywhere have left traces of their occupancy in names, particularly of rivers and of mountains, whose meaning is to be found in their language.

*Cymry*.—The next wave of population consisted of the Cymry, or Britons, another Celtic race, who also invaded from the south ; and having driven the previous occupants before them, took possession of England, and also the West of Scotland as far as the Grampians—the Gaels who were henceforth confined to the north being after this called Caledonii (the people of the wood). The Cymry, like the previous races, have in all these parts, left in the names of places the same proofs that they once possessed the country—in some cases whole districts being named after them—as Cumberland or Cambria-land, the land of the Cymry ; Northumberland, or the north land of the Cymry ; Westmoreland, or the west land of the Cymry ; and in the Frith of Clyde, the islands of Cumbray—that is, of the Cymry. They are now represented by the Welsh.

The next race entering Britain were the Romans. These conquerors of the world arrived in the first century, and here, as elsewhere, displayed their prowess. They met with a stout resistance ; but valour did not avail against the discipline of their legions, and for three and a-half centuries they ruled in Britain, though the greater part of Scotland successfully resisted them. It is from them we derive our knowledge of the early occupants of our land, and of the state of the country in these long past ages ; but, like the



British in India, they kept themselves separate from the inhabitants, and only to a very small extent their blood mingled with that of the natives.

Till the Romans departed, with the exception of a few Belgæ who had arrived shortly before the Romans, the inhabitants of the whole of Britain were Celts, and the Celtic language was spoken throughout the whole country ; but in the fifth century the Teutonic race, represented by the Saxon, arrived, and having conquered the Cymry, or Britons, left them only Cornwall, Wales, and the kingdom of Strathclyde, which extended originally from Morecambe Bay to the river Clyde, embracing Westmoreland, Cumberland, Northumberland, of modern England ; of Scotland, the shires of Dumbarton, Stirling, Renfrew, Lanark, Wigtown, Kirkeudbright, and Dumfries. The English portion of this kingdom became, in course of time, separated from the Scottish. The latter had for its stronghold the famous fort Alcluith (the rock of Clyde), now named from them Dumbarton (*Dun Bhreatain*, i.e., the Castle of the Britons). This kingdom continued for many centuries to maintain its independence ; but being at length weakened by the attacks of the Danes—by the departure, in the ninth century, of a large body of the nation who settled among their kindred in the north of Wales—and by the incursions of the Dalriads (Irish-Scots) from Ireland, who, attracted by the weakness of the British, and impelled by the incursions of the Northmen, emigrated, in the same century, from Ireland to Galloway—the dominion of Strathclyde became A.D., 924, subject to the rule of Scotland. It is, however, interesting to

notice that so late as A.D., 1018, a king of Strathclyde is mentioned among those who fought with Malcolm, king of Scotland, in the signal victory which in that year he won in Northumberland over the Saxons. It may also be added that, in the *Inquistio Davidis* of the twelfth century, they are mentioned as a distinct race; and that Buchanan relates that, in the sixteenth century, the Gaelic language (that of the Dalriadic invaders from Ireland in the ninth century) was still spoken in Galloway, nor, I may add, did it become altogether extinct till the beginning of the eighteenth.

*Dalriads.*—The next invasion of Scotland was by the Dalriads (Irish-Scots), a Gaelic race, first mentioned as found in Gaul, and described in the fourth century as “*Scoti per diversa vagantes, multa populabuntur*,” i.e., “Scots, great wanderers, peopling the earth.” These had occupied parts of Scotland and Ireland, and in the latter country had become powerful. In the commencement of the sixth century, a detachment of them,—called Dalriads, from the leader of an earlier, but ultimately unsuccessful, colony to the same place; named also Irish-Scots, and Attacotti,—crossed the sea (twelve miles) to Cantyre, in Argyleshire, where they established themselves. From it they gradually extended their influence over a considerable portion of Scotland, and eventually, mainly through the influence of their superior learning, placed (A.D. 843) their chief, Kenneth M’Alpin, on the Scottish throne.

After this condensed historical statement, I shall now, with like brevity and with special reference to Arran, present a view of the condition of the Celtic race in these early times.

In the first centuries of the Christian era, Arran's inhabitants, like those of the rest of Britain, were naked savages, who painted their bodies, dwelt in the poorest of wooden or earthen hovels, and supported themselves by fishing and hunting, and on the milk, and occasionally the flesh, of their black cattle,—at times supplemented by black puddings, obtained by *bleeding* these cattle when in good condition in summer. Little ground (in the first century none), was cultivated, while sheep were not included in their stock ; for, if possessed, the people had not continued without clothing. To such tribes Arran presented many attractions. The winters are mild, and the climate healthful : at the mouth of the rivers, and at various other places, are rich alluvial flats, affording good pasturage, and suited for agriculture ; the sea and rivers would supply them with fish ; the rocks with seals, then abundant, giving oil, light, and food ; the woods and heaths with game ; while the bogs afford abundance of moss, which could without much labour be converted into fuel. Like other Celts, they were divided into clans, each possessing its little track of country. The descriptions given of the Highlanders by writers in these days is neither flattering nor inviting ; for the Highlands, and particularly the Western Isles, are declared to have been “the scene of almost incessant private war and strife ;” and we find King James, in his *Basilicon Doron*, telling his son to “think no more of the Islanders than as wolves and wild boars.”

Such was the wretched condition of the ancient inhabitants of Arran. Nor did their religion tend to diminish its gloom.

*Druidism.*—Originally this probably was Druidism, regarding which Cæsar writes :—"The art and learning of the Druids has its origin in Britain"; and adds, "The whole nation of the Gauls are much addicted to superstition." This he illustrates by informing us that, in connection with their wars, they offered human sacrifices; that at times they made very large images of wicker work, the body and limbs of which they filled with human beings, and then set them on fire, and thus consumed the victims;" and that their soothsayers, in cases of importance, divined the future from the manner in which a human sacrifice died. He further states that a man had the power of life and death over his wife and children; and that, when a person of high rank died, his relations assembled to inquire into the cause of his decease; and if there was any ground of suspicion against his wife, they put her to the torture, after the manner of a slave; and, if guilty, she died tormented with fire, and every species of torture,—that, in case of a person of rank, everything in which he delighted was buried with him; and that, not long previous to his (Cæsar's) time, they buried with his body such of his followers and slaves as were his favourites. How great was the oppression by which the Druidical priesthood ground the people, may be inferred from the fact that, on pain of excommunication,—with them a terrible evil,—every fire in the kingdom was put out on the last day of October, and no one was allowed to rekindle his fire till he had paid up all the dues that the priesthood might have exacted during the course of the year.

In addition to these dreadful statements, there is a cir-

cumstance mentioned by Cæsar regarding the Druids, which also must ever be matter of regret. He writes,—“They are said to learn many verses, and even to continue their studies for twenty years; but though using writing for other purposes, it is not lawful for them to commit their learning to it.” Cæsar says he considers that this rule was intended to teach their scholars to cultivate their memories; and also to prevent their learning from becoming *vulgar*. If the latter were their object, they have attained an amount of success far above what they could have anticipated; for, in consequence, we who live in the present day are, of many subjects, almost entirely ignorant. The nation of Picts formerly occupied a large portion of Scotland, yet it is keenly disputed whence they came, to what race they belonged, and even what language they spoke. There are many stone pillars throughout the country, some sculptured, others not. We see that the sculptured and the unsculptured belong to different periods, and they are supposed to have been erected by different races. Of the sculptured, we can give some account, though even on them there are a “few mystic symbols of constant recurrence which are still an enigma to British antiquarians.” Respecting the unsculptured we are compelled to be almost as mute as they are themselves; and it is to this latter class that the *stannin-stanes*” of Arran, without exception, belong. There are also vitrified forts in many places; strange buildings in the North of Scotland, called burghs, or Pictish towers; weems, or earth-houses under ground; chambered cairns, &c., &c.,—all of these, though before our eyes, are, as to

their origin and use, so many riddles. The Druids could have solved them by giving the fullest information ; and in consequence of their silence, efforts at resolving them have in most cases only deepened their mystery.

*Christianity.*—At length a brighter and happier period dawned upon Arran, and Scotland generally ; for the light of the Gospel began to shine,—at first in the south of Scotland, where it was introduced by Christians in the Roman armies ; and, afterwards, more widely diffused by those persecutions which drove converts to the parts of the country to which the Roman power did not extend.

It was, however, to Ireland that Scotland was to be mainly indebted for religious truth. The history of its introduction is of the deepest interest. While the west of Europe was for centuries involved in the turmoil of the wars and commotions connected with the downfall of the Roman Empire, Ireland was from without undisturbed. Nobly did it improve the opportunity by inaugurating that glorious period in the history of that country,—when England and Scotland did homage to the superior civilisation of Ireland,—when the learning and piety of the Irish Church rendered it a light to Europe,—and when Iona, where Columba, coming from Ireland, had (A.D. 563) founded his missionary college, shone with a brightness and a beauty which command wonder and admiration to the present time. These were the days when the Irish Church was in many things the foremost Church in Europe ; when her learned sons occupied chairs in its most famous universities ; when her missionaries were found labouring in all accessible countries ; and when, in recogni-

tion of the services they had been the means of conferring, colleges, in various countries, were endowed for their special benefit. To illustrate this period, the genius of Montalembert, the learning of Ebrard, and the research of Dr Mc-Lauchlan and the Duke of Argyle, have been devoted ; while strangers from all lands still yearly crowd to Iona—"The Holy Island," whence gleamed of old so brightly the light of truth, and where still lies the mingled dust of famous missionaries, of Highland chieftains, and of Kings of Scotland, Erin, and distant Norway.

Two enemies brought this bright era to a close. 1st. The partisans of the Pope, who advanced from the South, and having secured the favour of princes, and established themselves in great cities, proved too powerful for the more simple piety of those who, though far from being free of superstition, were "ever covetous of exalting Christ, but crucified self,"—with whom the study and transcription of the Scripture were a passion,—and who, while abounding in all kinds of pious labour, ever loved the lonely islet and places of similar seclusion. 2nd. Heathenism from the north, embodied in the fierce Viking, who, first A.D. 794, and repeatedly during the following three hundred years, took the missionary island, spoiled the monastery and college, and slew its inmates. But though Iona was thus brought low, the truth which had there been taught long maintained a hold of Scotland, particularly of the south-west, where the inhabitants of Strathclyde offered a more vigorous and longer-continued resistance to Popery than those of any other portion of Scotland. Nor did it ever completely

cease ; for as near to the Reformation as A.D. 1494, there took place the memorable trial of those who were called “The Lollards of Ayrshire.” It is also, in this connection, most interesting to notice the fact mentioned by Tytler, the historian, that when Sir William Wallace, Scotland’s greatest patriot, was, A.D. 1305, being put to a death of shame and torture, the only request made by him was that the Psalter (the Bible being in those days far too bulky for an outlaw), his companion in all his wanderings, should be held open before him.

Those who have antiquarian tastes will also be pleased to notice that “the bell of St. Kentigern (St. Mungo), the great apostle of Strathclyde, which was an object of devout veneration at Glasgow for many centuries, after forming a prominent feature in the armorial bearings of the archiepiscopal see, still figures in the modern city arms.” Bells existed in Scotland from the time of St. Columba ; but were of very small size ; for in these days the best buildings were in general formed of wattle,—that is, the walls consisted of two parallel lines of wicker-work,—the space betwixt them being filled with mud or clay ; and such erections could not have borne bells of modern capacity. They were therefore carried by the hand ; or suspended, as that in the Glasgow arms, from the branches of a tree. A considerable number of these bells still exist. Somehow, in early ages, church bells came to be highly venerated by the people ; and were used in swearing,—an oath taken on the bell being considered even more sacred than one taken on the Scriptures. Of this we have striking evidence in the



anathema of the Popish Church, which is by “bell, book, and candle,” bell being placed before the Bible. We need not wonder at the humble character of church buildings in the sixth century, when we read regarding Glasgow’s famous Cathedral in the sixteenth (A.D. 1588) “The Kirk-session appointed some trees in the Hie (High) kirk-yard to be cut down to make forms for the folk to sit on in the kirk,—women not to sit on the forms but to bring stools with them,—and the beadles to have staffs for keeping quietness in the kirk and comely order;” and the Established Church at Lochranza, built A.D. 1795, though in constant use, remained unseated till A.D. 1835.

*Northmen.*—As the Gaels had subdued the Allophylians ; the Cymry the Gaels ; the Saxons the Cymry ; so now the Saxons were in their turn conquered by the Normans (Northmen). Scotland escaped this, as did Cumberland, Northumberland, Westmoreland, and Durham ; for these northern counties of England united with Scotland in a successful resistance. But though Scotland did not suffer from the Normans, it suffered much from the attacks of the countrymen of the Normans, who came direct from Scandinavia (Denmark, Sweden, and Norway). These northerly regions, with their innumerable islands, fiords, and voes, possess an unlimited sea board. All their inhabitants are sailors of the best quality, as their seas are the stormiest. Forth from them, at this period, in their many-oared, black-pennoned, and dragon-prowed galleys, some of them carrying several hundred men, issued countless numbers of bold sea-rovers, who fell like an avalanche on the countries of the

south. They invaded England, as also the distant Sicily, and seized upon their thrones. The fertile plains of fair France attracted them, and its king was compelled to cede Normandy, as also the hand of his daughter. They occupied Dublin and a large portion of the north of Ireland, the whole of Scotland north of Loch Linnhe, Orkney, Shetland, the Hebrides, and the Isle of Man, and extended their dominion to Iceland, Greenland, and America—the latter country having been discovered by them, A.D. 986, and an establishment formed in it by them A.D. 1006. They were the mightiest of all the sea powers of the Middle Ages; were the scourge of all the coast of Europe; avenged upon Italy and France the wrongs which, inflicted ages before by the Romans and Charlemagne, had driven them from Germany to the far north; and were a name of terror in the capital of the Greek.

“ Land of Isles in a northern sea ;—  
 Land of mist, and storms revelry ;—  
 Land of high mountains dark with pine ;  
 Of fiords—narrow, long, sublime ;  
 Of whirling gurge, and racing tide ;  
 Of crag, and scar, and precipice :—  
 Land ! whence of old came Sea-kings brave,  
 Sons of the mist, Lords of the wave ;  
 Flying their flags over the sea ;  
 Singing their songs, fearless and free ;  
 Battling the breeze—new worlds gaining ;  
 Fighting the foe—realms obtaining :—  
 Land !—where Sea-kings of old did dwell,  
 Where their Sons now dwell—Fare-Thee-Well.”

—*D. L., Jun.*

This great naval power established its supremacy over the

Hebrides A.D. 855, and maintained it till David I, A.D. 1135, conquered Arran and Bute, which he conferred upon Somerled, at this time the independent King of Argyle, as at the same period Galloway had also a King of its own, as Strathclyde had had till the previous century. This Somerled became a powerful King, for to Argyle, Bute, and Arran, he speedily added the Isle of Man, and all the Southern Hebrides. He fell at the battle of Renfrew, 1164 A.D., in attempting to conquer the Scottish throne. From his death till the time of Haco, the chiefs of the Hebrides were subject to Scotland or Norway, as the one or the other was for the time the more powerful, while not unfrequently they acted independently of both, receiving the name of *Lords of the Isles*.

Arran was intimately associated with the last occasion on which the Norse power put forth its full strength in Scotland,—that of the invasion of Haco, King of Norway, 1263. He, alleging that he had been unjustly dispossessed of Bute and Arran, came with one hundred and twenty ships, containing twenty thousand warriors, to assert his claim. Having seized upon the islands in dispute, he assembled all his forces in Arran, and having added the galleys of the Hebrides, and also those of Magnus, King of the Isle of Man, to his own, with two hundred galleys he assailed the coast of Ayrshire, a considerable portion of which he ravaged; but he was defeated at Largs, and most of his ships having been destroyed by a violent storm, the aged monarch was compelled to retire, and died of a broken heart in Orkney; while the Northmen received a blow from which they never recovered.

To what extent Arran was affected by the various changes to which we have referred, in many cases, history does not mention. Its insular position would shield it from some of them, but would the more expose it to the attacks of the Scots who came from Ireland, and to the incursions of the warlike Northmen. Both took possession of the island, large portions of it being permanently occupied by the Scots.

After this brief sketch of the history and condition of the ancient inhabitants of Arran, while the Celts and Norsemen had possession of the whole of the Island, I pass to the memorials which it still contains of these ancient days. These are :—

I. *Rude Stone Monuments*.—Perhaps in no place in Scotland were these interesting memorials of the past so numerous and also varied as in Arran. They remained intact, save by the hand of time, to the beginning of this century ; but here, as elsewhere, much that time had spared the far ruder hand of so-called civilized man has in our own utilitarian and unreverential days destroyed. Most interesting relics, however, yet remain ; all of which may now be considered safe under the protection of the Dukes of Hamilton. Stone monuments are of two kinds, unsculptured and sculptured. The sculptured are the most communicative, but the unsculptured are the much more eloquent and suggestive. All the Rude Stone Monuments of Arran are of the latter description. These primitive relics of the far-away past are by Ferguson, in his “*Rude Stone Monuments of All Countries*,” stated to consist in Britain of 1st, *The Tumulus*, including cairns and barrows ; 2nd, *The Dolmen*,

a horizontal stone resting upon perpendicular ones; 3rd, *Stone Circles*. The first he believes to be the burying places of the Gaels; the second of the Silures; and the third of the pagan Northmen. He mentions a fourth class—*Menhirs*—standing stones, common to all these races, generally landmarks, memorials of battles, or of some other event sought thus to be kept in remembrance.\*

Arran has examples of all these varieties of Rude Stone Monuments, showing that all the races that constructed them have mingled in it. The Menhirs (standing stones) are, as was to be expected, by far the most numerous, excellent examples being conspicuous at Brodick, Sannox, and many other places. Three varieties of Tumulus or Sepulchral Cairn are within a short distance of each other at Lag. Facing the sea, within the enclosure of a field on the left hand of the road which passes down on the left side of the little Torrylin stream, is the most remarkable of the three. It consists of a vast heap of stones. When examined these are found to be intersected from east to west by a row of vaults, consisting of six unhewn slabs, from five to six feet square. The vaults are filled with human bones; some of which are cleft as if by the blows of an axe or hatchet. On the opposite side of the stream are the other two, which are totally different in character. (See pages 147, 148.) Others exist throughout the island. The Stone

\* Martin, in his "Western Isles," mentions that when stones were being set up as landmarks, the boys from the nearest village were brought to the spot and there vigorously whipped, it being sagely concluded that this part of the day's ceremony would prove very helpful to the memories of these juvenile members of the community!

Circles of Lamlash and Brodick, and also the Dolmen near Dunfion, are completely destroyed ; there only remain the examples of both on the plains of Shisken, and it is to be hoped that no injury of any kind will happen them.

*Mrs Kerr's Stone.*—A monument of a different character may be mentioned here. The tradition in connection with it is as follows :—In ancient days, M'Donald of Red Island, in the Kyles of Bute, attacked and took Tarbert Castle, slew M'Allister its owner, and afterwards forced the young widow of the deceased to marry him. She at the time was near confinement. M'Donald knew that if the child were a boy, and were spared, he, when he became a man, would endeavour to avenge the death of his father. He therefore gave orders that it, if male, should, as soon as born, be put to death, and placed a guard round the house to prevent it being carried away. In the household of the chief there was a young married woman of the name of Kerr, from Dougrie, in Arran, who had lately given birth to a female child. She resolved, if the child proved a boy, to risk her life in endeavouring to save him, and communicated her determination to her mistress. The child born was a boy ; but Mrs Kerr's child was cleverly substituted for it, while she carried off the heir. Favoured by the darkness of the night, she evaded the guards, and, seizing a boat, rowed across to Arran. Afraid of being pursued, she did not venture to live at Dougrie, but took up her residence at the head of Glen Iorsa, where it joins Lochranza Glen. Here is a great granite boulder, behind which she sheltered herself and the child. When she left him to procure food,

as she had many miles of rough moor to travel, and required to be absent for a very considerable time, she was in the habit of giving him a piece of flesh to suck ; and, lest he should be choked by it, she so tied it to his great toe, that, when he stretched himself, as he would do if gasping, the meat would be pulled from his throat. When fit for school, she sent him to Ireland for education, and gave instructions that he should be trained with the utmost care to the use of the sword. The boy, when he became a man, returned with armed followers to Scotland, and slew the murderer of his father. He then sailed to Arran to seek his nurse. Rowing along the shore, they passed a woman gathering limpets on the rocks, who sung to herself as she did so. The young chief recognised the song with which he had many a time been soothed in the days of childhood, and rejoiced in finding his foster mother alive. Many hundreds of years have passed since this incident took place, yet the memorial of the compassionate and heroic woman abides in the great granite boulder near the west end of Loch-na-Davie, which is still named "*Mrs Kerr's Stone*."

II. *Language*.—The Gaelic of Arran is similar to that of Cantyre, and is very peculiar. It is a cross between Irish and Gaelic, and the intermixture of Irish is so great that the language of Arran is intelligible in Ireland, while that of the north and east of Scotland are not. Proof is thus given that the Dalriads had, in force, established themselves in Arran.

III. *Cymric Names*.—As the Cymry possessed the islands of Cumbray, and Dumbarton was their stronghold in Scotland,

they must have been frequently in Arran, and it might be expected that there would exist traces in some form of this. We have it in the name of Arran, this being derived from the Cymric or Welsh word *aran*, signifying *a sharp point*.

IV. *Tradition*.—There are many traditions in Arran associated with the name of Fingal. This most renowned of Gaelic heroes lived in the third century, two hundred years before St Patrick. At that time the Irish Scots had recently formed their first settlement in Kintyre; and Fingal, the mighty warrior, hunter, and redresser of wrongs, is represented as frequently passing and repassing from Erin to Argyle. The traditions in Arran regarding Fingal cluster around the caves now associated with the name of Bruce, but formerly bearing that of Fingal; another cave a little east of the Cock of Arran having the same name; the stone-circles in Shiskin; various places of sepulture, as that named Ossian's Grave; and the remains of certain old forts, as that of Dunfion. It is noteworthy that all these names and traditions point back to the times of heathenism; for in Ossian, and other remains purporting to belong to this period, there is no reference of any kind to Christianity.

V. *Old Forts*.—To the Norse epoch probably belong all the old forts which are to be found crowning the strongest and most important eminences along the west coast of Arran. We have seen that a few of these may have been built by the Norsemen, but the great majority undoubtedly by the natives of Arran, as defences against them and kindred foes. All of them are now so ruinous, that only their foundations can be traced; but these evince that some of them were



places of great strength, and erected at the expense of prodigious toil ; thus giving proof of the great dread entertained of the enemy, to protect from whom they were built. There is one about a stone-cast to the north-west of the “giant’s graves” at Whiting Bay, which, though small, is peculiar in its construction, as the entrance seems to have been by a stone tunnel, part of which still remains entire. It communicates with the centre of the building. This construction would in those days render the little fort impregnable.

VI. *Christian Memorials*.—Arran is very rich in religious antiquities, and they bear most emphatic testimony to the great impression made by Columba, the founder of Iona, and his disciples, upon the minds of the early inhabitants of Arran. They also in general consist in the names of places. The following are the more prominent :—

*St Patrick*.—The name of the patron saint of Ireland is borne by Kilpatrick, (the church of Patrick) and Kilpatrick Point.

*St Columba*.—The founder of Iona is commemorated in a very simple way. About three quarters of a mile from the head of Gleann-ant-Suidhe (the seat glen), close to the stream, on its north side, is a moss-covered cairn. Its name is Suidhe-Chalum-Chille (the Seat of Columba of the Cell), and marks the spot where St Columba sat while passing through the island evangelising its heathen inhabitants. Near the highway, and by the side of the path which leads to Corrie-an-Lochan, there is also a well named Tolan-Chalum-Chille (the Well of Columba of the Cell). It is re-

ported that the saint of Iona drank of it, and blessed it, hence it is in high repute for medicinal virtue.

*St Brannan.*—This distinguished man, the friend of St Columba, has given his name to Kilbrannan Sound (the sound of the Church of Brannan). He died A.D. 565, in his eightieth year.

*St Bridget.*—This female saint was so popular in the Green Isle, that she has been called the Madonna of the Irish. Many places in England, Scotland, and Ireland, have been named after her. In Arran, all the east of the island constituted, till lately, the parish of Kilbride—that is, of the Church of Bridget.

*St Maelrubius, or Malrue.*—He was a disciple of St Columba, and came to Scotland, A.D. 571, where he laboured for more than fifty years. Numerous places in Scotland have received his name—as Kilmary, Kilmorich, and the beautiful Loch Maree, in Ross-shire. In Arran, the west side of the island is called Kilmory—that is, the district of the Church of Malrue.

*St Molassus, or Molaise.*—He has given his name to the noble Bay of Lamlash—a contraction of Isle-a-Molass. He was born in Ireland, A.D. 566; and when only twenty years of age retired to a cell, supposed to have been that in the Holy Isle. He afterwards returned to his native country, where he became Abbot of Leighlin. He died A.D. 640. From his great piety, his Arran residence came to be known as “The Holy Isle,” bearing the same relation to Arran as Iona, “the Holy Island,” does to Scotland. For long, the people of Arran showed their belief in the sanctity of the

island where Molaise had lived, by burying in it their dead. The custom would probably have continued, had not on one occasion a boat been upset, and a number of persons drowned. The inscription on the roof of the cave of St. Molaise is Runic, and refers to a Norwegian hermit, who resided here about A.D. 1100, when the Norwegians were in power in the Western Islands. Let not the visitor of the "Saint's Cell" in the Holy Isle confound Molaise with those lazy monks who so abounded in the Romish and Eastern Churches. He was one of those noble men who, in accordance with a practice not uncommon in the early Irish Church, spent several years in such a cell, that in so retired a spot by hardships, study, meditation, and prayer, they might prepare themselves for carrying the Light of Heaven among the barbarous nations around, or for a ministry of self-denial and devotedness among their own countrymen.

*St. Donan.*—He was a disciple of St. Columba, and suffered martyrdom in the island of Eigg. He is the only one of the early missionaries to Scotland who is reported to have so suffered. Various places in Scotland bear his name. In Arran, Kildonan—the Church of Donan.

*Old Religious Buildings.*—The religious buildings belonging to this period were:—1st, A monastery which stood near the house or the Holy Isle. It is mentioned by Dean Munro; but even in his time (1594) it was ruinous. The remains of the Old Burying-place here was destroyed in 1835. 2nd, A small Church in Kilmichael Glen, a little below Kilmichael House, whose foundations were removed about the same time as those of the Burying-place in the

Holy Isle were destroyed. 3rd, A little Church at Glen Sannox dedicated to St. Michael, of which there only remains the rude image of the Saint built into the boundary wall. 4th, The Convent of St. Bride at Lochranza, which cannot now be traced. 5th, The site of an Old Chapel near the shore, a little south of Auchencar.

VII. *Norse Names*.—The Northmen did not long rule in Arran; nor have they left many traces of their presence. Their ships were their strength and their pride; they frequented bays,—hence their name of Vikings, (*vic*, a bay), ready to depart at any time. They would, to some extent, intermarry with the natives of Arran; and thus families of a northern name and type would arise, but the name would speedily be lost in that of the clan with which they connected themselves; and their northern type would gradually be merged in that of the general community. In Skye and the Western Hebrides there are many places with Norse names. In Arran they are more rare. Pladda seems to be derived from *flada*, in the Norse language signifying the flat island; Brodick, from *broad*, and *vic*, a bay. Mr M'Arthur, in his work on the "Antiquities of Arran," further suggests the names ending in *dale* (valley), as Eaisdale; those in *ter*, from *ster*, or *stadr*, a place; in *jell*, from *fjall*, a rocky mountain; Lochranza, as signifying the Loch of Arran's isle; from *loch*, *ran* (Arran), and *a*, or *ey*, an island; and possibly Whiting Bay, from *ting* or *thing*, a hill for consultation. I have already mentioned that it is thought by some authorities that the stone-circles were erected by them. There are, besides, several places with Gaelic names which seem to refer to them, thus—

“Corrygills,” near Brodick, means “the dell of the strangers,”—“Ghail,” which signifies “stranger,” being one of the names of the Northmen. Again, “Dun Fion,” instead of signifying, as hitherto stated, “the castle of Fionn (fair),” the Gaelic name of Fingal, so called from his fair complexion, probably means “the castle of the Norsemen,” who also received the name of Fionn, for the same reason. It tends to support this translation that the site of Dun Fion, as commanding the two important Bays of Brodick and Lamlash, was most suitable for a sea-power, and that, in addition to its own strength, it was supported by Dun Dubh (the black castle), which towered above it; while both of them would protect Corrygills, lying beneath, which would further be defended by Dunan (the little fort), which crowns the romantic knoll on the opposite side of the Corry.

May not also the remarkable mound called “Aran,” which, till lately destroyed, formed one of the most notable features of Catacol Bay, be commemorative of the Northmen? In the “New Statistical Account,” it is said “to have marked the spot where Fingal defeated the Norsemen under Manus (Magnus?) son of the King of Sweden.” Is it not more probable that Aran, or “Ar-Fhinn” (the slaughter of the fair [men]), denotes the spot where the Norsemen who remained in that part of Arran were slaughtered after the overthrow of the Norse power at the battle of Largs; and not “the slaughter of Fingal,” as hitherto alleged? This conjecture is confirmed by the fact that the name of Haco’s successor was Magnus.

*Normans.*—Though the Normans and the Norsemen

are of the same race, yet the residence of the former in France so modified their character, that they are generally treated as distinct. It is a striking proof of the ability of the Norman race, that though Scotland was never subdued by them, yet very many of her old families—that of Hamilton for instance—are descended from them; hence the period is termed Norman. The best known of all the Arran memorials of the past, are those which are associated with the bravest and wisest of Scottish monarchs,—King Robert Bruce, who was of Norman blood. How many does love to his memory attract every year to that cave which he occupied when, to any but the bravest, his cause had appeared hopeless? Long may Scotland's sons cherish with warmest love and admiration the memory of The Wallace and The Bruce!

The sojourn of Bruce in Arran had the effect of attaching the natives to his person; and a considerable number of them are said to have fought under him at Bannockburn.

*Kilmichael*.—The head of the Stuart family, to whom Arran had for more than a century belonged, having married the daughter of King Robert Bruce, their son, Robert II., succeeded (A.D. 1377) to the throne. In the great war with England during the reign of his Uncle David, Robert had, when in great distress, been ably supported by the people of Arran, and he is believed to have manifested his gratitude by releasing the inhabitants from their yearly tribute of corn; by conferring upon them certain privileges; and by bestowing grants of land upon several persons. When the Fullarton family became possessed of Kilmichael, is uncertain; for when (A.D. 1361) the lands of Strathwhellan were bestowed

by Robert III. on Fergus Fullarton, he is already designated "of Kilmichael." It is ascertained from the royal accounts, that the ancestor of the family acted in Arran as a steward to King Robert Bruce, and it is probable that he had previously served the king in his wars, and Kilmichael property may have been given him by the king as a reward. The mansion of this ancient family is pleasantly situated at the mouth of their ancestral glen.

There are, at the present time, three castles in Arran of the Norman period :—

*Kildonan Castle.*—This finely situated castle belonged to the crown till A.D. 1405, when King Robert bestowed it and the adjoining lands on John Stewart of Ardgowan. After various transfers, at the end of last century it belonged to the Marquis of Bute, from whom it, the adjoining lands, and East and West Corrygills, were purchased by the Duke of Hamilton. This seems to have formed one of a line of watch-towers.

*Lochranza Castle.*—It was probably built by the Stewart family. After being in the possession of the Crown for nearly a century, along with Sannox and Lochranza lands, it was (A.D. 1452) conferred upon the first Lord Montgomerie of Eglinton; and after passing into the possession of the Montgomeries of Skelmorlie, it was (A.D. 1705), along with the same lands, acquired by Anne, Duchess of Hamilton.

*Brodict Castle.*—This is the most important of all the ancient buildings in Arran. It is believed there was a castle on this site in the time of the Norsemen. It was occupied, in 1306, by Sir John Hastings, who held it for the King of

England. In the following spring, Sir James Douglas, who had spent the winter with "The Bruce" in the island of Rachrin, came to Arran, and succeeded in surprising a party of the garrison, and in slaying forty of them. A similar event is commemorated by a plot of ground a little north west of Strabane. This is called Monadh-na-ceann--The Moss of Beheading. It was a moss at that time, and tradition tells it got its name from the circumstance that the licentious conduct of the garrison toward the wives and daughters of the inhabitants having enraged the people of Arran, they fell upon a large number of them when they were foraging, and all that were taken prisoners were brought to this spot, where, in the full view of the remaining garrison, they were put to death. Betwixt Corrie and Sannox there is, by the roadside, a large boulder, which is to this day named "The Englishman's Stone," from the fact that one of the garrison had hid himself under it; but being discovered, was dragged out to share the fate of his companions. This incident is often told as if it had been the soldiers of Cromwell who thus sinned and suffered, while it was those of Edward I. Surprise has often been expressed that while the name of Bruce is associated with the old fort in Glen Cloy--Barbour's "stalwart plas" in "ane woody glen"—there is no particular account of the capture of Brodick Castle by King Robert Bruce, who, in thirty-three row-boats, with the remainder of his adherents, had followed Sir James Douglas to Arran and landed at Lochranza. We may conclude that it was taken immediately after this second slaughter of the garrison, when, though originally strong, they had been so



weakened, and become so disheartened, as to offer so little resistance that the capture of the place has not been thought worthy of record. It is said it was from the battlements of Brodick Castle that the eagle-eye of the great king discerned the beacon, which he believed to indicate that Ayrshire was ready to help him in delivering his native land from the yoke of the Sonthron. In 1455 Brodick Castle was taken, and levelled to the ground, by the expedition under Donald Balloch of Islay, which the Earl of Ross fitted out in support of the Earl of Douglas, when he was in rebellion against his sovereign, James II. In the reign of James III., most of Arran was for a short time in the possession of the Boyds of Kilmarnock,—Sir Thomas Boyd having married the eldest sister of the king, and received as her dowry the portion of Arran which belonged to the Crown. Upon his disgrace, his wife was divorced from him, and bestowed, A.D. 1474, upon Lord Hamilton of Cadzow, at whose death his widow had bestowed upon her the life-rent of all the forfeited lands of the Boyds, and her son was, A.D. 1503, created Earl of Arran by James IV., and also further enriched with the Crown lands in Arran. In 1544 Brodick Castle, which in the interval had been rebuilt, was again demolished by the Earl of Lennox, commander of an expedition which Henry VIII. of England fitted out against the west coast of Scotland, to punish the Scots for refusing to give their Princess Mary, heir to the throne, in marriage to his son Edward. Twenty years later, Arran was again laid waste by the Earl of Sussex, when Brodick Castle had only newly been rebuilt. The last time that Brodick Castle was captured was during

the occupation of Scotland by Cromwell, who placed in it a garrison of eighty men.

Brodict Castle still remains. The high and massive portion of the building on the north-east side was probably built about three centuries ago. The bartizan on the north was erected by Oliver Cromwell. The portion on the west side was added by "The Good Duchess Anne" in the beginning of the eighteenth century. The new portion, as also the fine tower at the south-west corner, were erected in 1844 by the late Duke. He also formed the new approaches, and in many ways enhanced the attractiveness of this old ducal residence. How well it looks ! as, situated on Goatfell's skirt, and surrounded by green parks and beautiful woods, it like a queen looks down upon the noble Bay of Brodict, of which it is itself so great an ornament !

*Duchess Anne of Hamilton.*—I close this chapter with a notice of this, the most distinguished of all the ladies of the House of Hamilton. Lady Anne was of the same family as the gentle but fearless Patrick Hamilton, the first of Scotland's Reformation martyrs ; and, like him, was connected by blood to the Royal Family. She was born in 1630. Her father, the third Marquis, and the first Duke of Hamilton, and also the first Earl of Arran, was one of the most prominent men of his day. Though early introduced at Court, and though the king showed much attachment to him, he retired to Scotland, where he "soon became warmly attached to the quiet and retirement of the country, and spent the greater part of his time at Brodict Castle." Drawn at length from private life by repeated and most pressing

letters from the king, he speedily signalized himself in many ways—commanded the British troops that served in Germany under the celebrated Gustavus Adolphus, King of Sweden; represented the king at the famous General Assembly in Glasgow in 1638; raised an army in Scotland in favour of the king; fought with Cromwell at Preston; and at length died with the utmost courage when for his devotion to the king he had been condemned to be beheaded. He was succeeded by a younger brother, who also adhered to the king, and fell fighting bravely at the battle of Worcester. Anne, now in her twenty-first year, by his death became heiress to the magnificent estates of the Hamilton family; but they were declared forfeited by Cromwell, and only £400 a year was allowed her. In 1656, she was married to Lord William Douglas, eldest son of William, first Marquis of Douglas. At the Restoration, all her estates were recovered; but on her own petition, the title and precedence of the Dukedom of Hamilton, which belonged to her, were bestowed upon her husband.

During the twenty-eight years of persecution, the Duke of Hamilton showed much sympathy with the Scottish Church, which caused his expulsion from the Privy Council.

The conduct of the Duchess was still more decided. She was a devoted admirer of the distinguished Puritan, Dr Thomas Manton, and, when in London, attended his ministry. She petitioned the Government in favour of the Rev. Hugh M'Kail and Mr James Mitchell. She frequented the ministrations of the ejected ministers who had accepted "the indulgence," though this, if discovered, would have subjected

her to very severe penalties. When the battle of Bothwell Bridge was fought, the Duchess was residing at Hamilton, and learning that many of the fugitives had hid themselves in the woods within her grounds, she sent a message to the Duke of Monmouth, who commanded the king's troops, requesting that he would not permit his soldiers to trespass within her policies. The request was granted, and thus many of the Presbyterians escaped. She died in 1716, in her 86th year, having retained her faculties to the last. Her husband had died in 1694. She showed her patriotism by making a present to the Revolution Government of a considerable vessel, which she had built in Arran, of native oak; her public spirit in founding and endowing schools, building bridges, founding three bursaries in connection with the University of Glasgow, and also by erecting a spacious quay at Lamlash, fit to admit large vessels at all states of the tide, which cost, though the materials were at hand, £2913, when masons' wages were 8d and labourers' 4d per day.\* Her regard for religion she manifested by endowing a ministerial charge at Hamilton, another at Lesmahagow, an assistanceship at Strathaven, and a catechist at Lochranza, Arran. While performing these acts of princely munificence, so far was she from impoverishing her own family, that it was she who by purchase added the lands of Sannox and Lochranza to the Hamilton estate.

\* Vanity of vanities, all is vanity, for who knoweth who shall come after him, whether he shall be a wise man or a fool! A successor of Duchess Anne, at the end of last century, turned her noble pier into a quarry, out of which he built Whitehouse and Lamlash-street.

Her humility is shown by the following anecdote :—When coming forward on one occasion to the communion-table at Hamilton, a plain, decent old woman, who was taking her seat at the table, on observing her Ladyship, was about to step aside, but the Duchess stopped her, saying, “Step forward, honest woman, there is no distinction of rank here.”

Men of different and opposite political creeds have united in paying homage to her virtue, piety, and mental endowments. Martin, in his “Description of the Western Islands of Scotland,” writes :—“The natives of Arran say that the mountains near the castle afford crystal, and that the Duchess of Hamilton put so great a value on it as to be at the charge of getting a necklace of it, which the inhabitants take as a great honour done to them, because they have a great veneration for her Grace.” Bishop Burnet describes her as “a woman of great piety and of great parts.” Lockhart, a violent Jacobite, says of her, “She was a lady of great honour and singular piety.” Best of all, at the end of more than 150 years from her death, she is still known in Arran, and wherever she had estates, as “The Good Duchess.” She resided much in Arran, where she would manifest her sympathy with the Rev. John Cunison, the “outed” minister of Kilbride ; and also with Donald M’Neil and Neil M’Neil, both of Kilmory, who were among those fined during “The Persecution.” As Columba, the greatest of Scottish saints, is commemorated in Arran by a well, so is the most distinguished of the ladies of Arran in the same simple but expressive manner. A very little north of the

northern approach to Brodick Castle, a path ascends from the highway to the Castle. It is the original approach. By the side of it, and a few yards from the highway, is a little well. This is the well of "The good Duchess Anne."

Many a time would "The Good Duchess" sit by this well; many a time also would she walk upon the beautiful expanse, which stretched from near Brodick quay to Invercloy. The Bay of Brodick is much changed since her day. Then the Cloy entered the sea at the southern extremity of the *sandy* bay, hence named Invercloy (the mouth of the Cloy); while the Rosie did so at its northern extremity, close to Brodick quay. Betwixt these streams extended a long grassy plain, beautified by wild flowers and fragrant with wild thyme. This fine level the Duchess named "The Velvet Carpet;" and upon it she yearly held horse races, the object of these contests at that time being the improvement of the breed of this noble animal. The Rosie seems to regret the alteration of its course: for it is yearly moving in the direction of its former channel. 'Tis a pity the eminence on which Brodick Castle stands is not now adorned by the waters of the Rosie, in union with those of the Cnocan, flowing as of old close to its base.—See "The Ladies of the Covenant," by the Rev. James Anderson.



## THE GEOLOGY OF ARRAN.

### CHAPTER II.

WE have already viewed the scenery of Arran, or ascended its mountains, and penetrated its glens. We have studied its natural history, and admired the manifold wisdom it reveals. We have also searched out its ancient history ; inquiring what races have inhabited it, what the order of their arrival, and by what they were distinguished. We now pass to a period more remote. From the early history of the inhabitants, we proceed to the early history of the island itself, and ask by what instrumentality were the mountains elevated to their present stupendous height ? What were the processes by which the valleys, lochs, and corries were hollowed ? Of what rocks is the island composed ? what was the order of their formation ? and what their original positions ? What caused that circuit of cave-penetrated cliff belting the coast ? Whence came the huge boulders everywhere on the mountain sides and

along the sea-beach? and how were they conveyed to their present positions?

These questions all relate to what is called the *crust* of the earth, that is, its surface and a few miles beneath—this being all the depth to which man has penetrated, or with which he has been able in any way to make himself directly acquainted. I shall endeavour, very briefly, to answer the questions.

Long-continued and patient labour has enabled the geologist to ascertain that the crust of the earth is composed of two kinds of rocks,—the one igneous, the other aqueous, in origin. Igneous rocks,—that is, those which owe their origin to fire,—have, by the earth's internal heat, been erupted from its depths, and are to be found in all parts of the earth's crust. Aqueous rocks, as the name implies, owe their origin to water, and have been formed at the bottom of seas and lakes by the gradual accumulation of sediment; or, like our modern peat, have been formed at the spot where the plants of which they are composed grew, the result being beds of coal. Aqueous rocks are always arranged in layers, resulting from the mode of their deposition. They also always occupy the same relative position in the earth's crust, so that, wherever found, we know their place.

It might be thought that it would be impossible to identify these strata. So it frequently would, were it not that, like the leaves of a book, most of them are paged. As we know at once the place which a separate leaf occupies in a book by its paging, we also know the position of a stratum of rock from the paging nature has put upon it,—this paging consisting



of the fossils the stratum contains. When devoid of fossils, its position can only be guessed at from its chemical character ; by penetrating from the surface, as is done in sinking pits ; or by seeing the succession of the various rocks exposed, as is often the case in the face of a cliff. But none of these can be depended upon as can the teaching of fossils ; for though by the other modes we can ascertain the succession of strata in a particular spot, we cannot know how many beds may be there awaiting. The arrangement of the various strata is as follows :—

### PLUTONIC OR IGNEOUS ROCKS.

Regarding Arran, Milner, in his “Gallery of Nature,” writes :—“There is no part of Britain, and but few places in the globe, which presents so great a variety of igneous rocks as Arran.” The cause of this, in great measure, is a peculiarity in the outburst of granite. Instead of being in the centre of the slate, so that the same rocks, and to the same extent, would be found all round the granite centre, it has so burst through that, while on the east side there is only slate between it and the sea, in some places on the west side there is outside the granite, first a line of Slate, second one of Old Red Sandstone, and a third of the Carboniferous series ; and all within a breadth of about two miles. Arran has also been called a geological epitome of the world, because of the great variety of rocks there exposed. These are :—

*Granite.*—The inner fold of that great envelope which encloses the earth is everywhere granite. Whatever rock

may be absent, this never is. If one sinks sufficiently deep, granite will be reached. Granite differs from trap, and from the tufa of modern volcanic regions, not in mineral composition, but in those characters which owe their origin to the different conditions under which the rocks were formed. Granite results from the cooling of the molten contents of the earth's centre under the weight of vast piles of overlying strata ; trap, from the cooling of the same molten matter under the pressure of a superincumbent ocean ; tufa, when it has cooled exposed to the atmosphere. We shall have occasion to point out that all these three forms of consolidation have taken place in Arran. Granite, having been formed under the weight of overlying masses of rock, does not overflow other rocks as does trap and tufa. It penetrates in veins, upheaves and bursts through ; but never having risen at its formation to the surface of the crust, it could not overflow. Granite in Arran, with the exception of two small patches, is confined to the northern half of the island. There are two varieties, the coarse and the fine. The coarse is the upper, and forms the tops of all the high mountains. The fine prevails in the upper part of Glen Iorsa, and rises high on the mountain slopes on both its sides. The fine granite is of later origin than the coarse, as is proved by veins of the fine penetrating it ; just as the coarse granite is of later origin than the slate, for the slate is penetrated by veins of the coarse granite. How inconceivable the power exerted from earth's central depths, when these great mountains were upheaved ! Yet elsewhere far greater power of a similar kind has been manifested ; for Mont Blanc, the

monarch of European mountains, towering to the height of 15,730 feet, is composed to the very top of a variety of granite. Gold, silver, tin, and iron are all found in granite; also many varieties of quartz crystals,—as emerald, topaz, garnet, &c., &c. In Arran none of the metals in any quantity have been obtained; but quartz crystals are to be had, most of them smoke-coloured (smoky quartz, or black crystals), but some transparent (rock crystals).

*Trappean Rocks.*—Trap embraces many varieties, some differing little from granite, others bearing a very close resemblance to the products of volcanoes at present active. The principal varieties are greenstones (whinstones), claystones, clinkstones, pitchstones, and the various porphyries (felspar porphyry, greenstone porphyry, claystone porphyry, pitchstone porphyry), and amygdaloids. One of the most remarkable of these is pitchstone, which is found in Arran in several places in veins. The finest is a little up from the beach, and slightly north of Dunfion. In appearance, pitchstone resembles dark green bottle-glass. When thin slices of it are subjected to the microscope, beautiful fern-like forms are revealed, similar in appearance to those seen on panes of glass during frost.

One of the most remarkable features of igneous rocks is the number of veins or dykes sent out by them in all directions. When a volcano becomes active, it not merely belches forth its molten contents by its mouth or crater, but also by cracks on all sides of the mountain. So was it in ancient times; and while much of the rock thus formed may have been carried away, these cracks or dykes, by reason of

their great depth, frequently remain, telling in language that cannot be mistaken, how great was the volcanic action that once prevailed.

The igneous rocks form excellent soil. In the famed Dunlop cheese we have the produce of a soil formed by the decomposition of trap. In the strawberries of Aberdeen, and the fine fruits and dairy produce of the Channel Islands, that of one from granite. In Arran, witness the Brodick Castle gardens.

### AQUEOUS ROCKS.

*Slates.*—Granite is, in many places, succeeded by gneiss and schist. Gneiss is formed from the decomposition of granite; schist, from the decomposition of granite and gneiss. Both gneiss and schist differ from granite in being aqueous, and not igneous. Both of them, since their formation, have been much altered by heat: hence they are frequently called Metamorphic Rocks. It was probably while they were yet unconsolidated, and still forming the bed of the ocean, that the internal heat of the earth—then much greater than it is now—caused those contortions and convolutions they still exhibit, and imparted to them their present crystalline character. Thus the chemist can, by the application of heat, change carbonate of lime into crystallized limestone, and sandstone into quartz. An illustration of the latter change, produced by nature, exists in the south side of Glen Dubh (continuation of Glen Cloy), where two dykes—one of porphyry, the other of greenstone—have been erupted close to each other, and the great heat

caused by their proximity has changed the sandstone situated between them into a rock, almost a quartz, and containing beautiful quartz crystals of many varieties—rock-crystal (colourless), amethyst (violet), topaz (yellow), and milky. A striking example of a contorted slate may be seen at North Thundergay (a little south of C'atacol Free Church), where the highway is cut through this rock. An engraving of it is given in Professor Ramsay's work on Arran.

The gneiss and schist-slate series furnish, in Scotland, roofing slates. Abroad, it yields minerals; and also those marbles in which the masterpieces of ancient statuary were executed. It is the oldest rock in Arran,—granite, though higher, having shot through it. Being unfossiliferous, it is impossible to determine its exact date. Sir R. Murchison believed it to be Silurian, which is found on the opposite side of the Frith, near Girvan, where it contains many fossils, and, among others, many varieties of the trilobite,—that strange creature whose singular structure has so much puzzled the geologist. To the general reader, it is interesting to know that this chiton-like crustacean possessed eyes; thus proving the existence of light at that early period: but its eyes, for they are preserved in great perfection, are compound,—that is, they resemble a multiplying glass, so that instead of having, like man, only two pictures of an object presented to its notice, like the fly, bee, dragon-fly, &c., it had thousands. We are thus reminded that while in God's works there is generally a gradual progress, there are yet instances, and these frequently in connection with what is most delicate and complex, in which the highest mechanical perfection is

exhibited at the first. The earliest eye discovered is not a bungling attempt, or an indication of a slight tendency in the direction of that most wonderful and important organ : it is the eye of the trilobite.

*Old Red Sandstone.*—In the rocky crust of the earth, the Old Red Sandstone succeeds the Silurian. It is called “old” to distinguish it from rocks of a similar character and appearance found immediately above the Carboniferous system ; “sandstone,” from being, in a great measure, composed of rocks of this material ; and “red,” because frequently through the presence of oxide of iron it is of a red colour. But as the rocks of this series are not always red, so they are not invariably composed of sandstone. A stratum of great depth at the base of the system, known as *The Great Conglomerate*, at places as much as three hundred feet in thickness, is largely composed of cemented pebbles. It is this part of the formation that is found in Arran. One of the striking peculiarities of conglomerate or pudding-stone there, is the absence of even the smallest bit of granite, clearly proving that when it was being formed the granite of Arran either did not exist or was not exposed. Hugh Miller points out that it is the opposite at Cromarty, for there the Old Red Conglomerate is full of granite, though now there are no longer any granite rocks in the neighbourhood.

When did the granite mountains of Arran first raise their stately forms piercing the blue sky ? An ancient cliff, cut by the action of the sea into many a cave, surrounds much of Arran. Professor Ramsay directs attention to the fact that the pillars of these caves, which originally must have

been perpendicular to the level of the sea, no longer remain so ; but are perpendicular to the line of stratification,—that is, to the line marking the successive layers in which the rock was deposited. The granite must therefore have outburst *after* these sea-caves were formed ; for by tilting them up on the one side it must have caused the line of stratification to differ from the horizontal line. How comparatively recent, in a geological sense, has been this change, appears from the shells found upon the floor of the caves, which, though somewhat northern in type, are all of the same species as those still inhabiting the sea.

Before leaving the Old Red formation, notice a few elementary particulars.

I. The rocks of this and preceding periods were formed at the bottom of the ocean. This is evident from their structure and contents. Thus the anthracite coal of the lower Silurian, in some parts of Dumfriesshire extending over large tracts, and several feet thick, is known to be composed of sea-weeds, several of which have been identified as closely resembling some of the best known of the present day.

That they now form part of the land was caused by changes which geology teaches us were frequent. The traveller who has ascended the slopes of the Himalayan mountains, now situated more than seven hundred miles from any sea, and about three-and-a-half miles of perpendicular height above it, might conclude that he was now far removed from what has been influenced by its action. Let him look at the rock under his feet. Its fossil contents proclaim that it formerly occupied part of the bed of the ocean, and

at comparatively so recent a period as that of the Oolitic system.

But was there no land in these early ages ? Yes, but the known remains proving its existence were confined to ferns, club-mosses, and similar plants, till the eye of the late Hugh Miller rested upon an organism which had somewhat the appearance of wood. The aids of the lapidary and the optician were sought, resulting in the discovery that even then there were places on the earth's surface adorned with trees, and that these resembled the pines or *araucariæ* of the present time.

II. The older rocks are composed of the disintegrated remains of those which preceded them. The great breaking, crushing, and polishing machine of the universe is ever in motion. The revolutions of the seasons turn its mighty wheels ; cold and heat, rain and drought, winds and waves, tides and ocean currents, are its grinding powers. Without intermission, day and night, summer and winter, the work goes on, through what appears to us unlimited ages. Not mountains merely, but continents are by it broken into pieces, or crushed into sand. The Old Red Sandstone system, though only one of many, averages a thickness of ten thousand feet, extending over the north of Scotland, and vast areas in Russia, Siberia, Tartary, and also in Africa, and America ; yet the whole has been formed out of the broken and crushed remains of previously existing rocks.

III. Notice the appearance of the Old Red formation. How beautiful is its conglomerate or pudding-stone ! as, for instance, on the right of the road from Sannox to Lochranza,



and about a third of a mile after the road begins to run parallel with the North Samox stream. How abundant in it are quartz pebbles ; and though so hard that they would strike fire with steel as readily as flint, how smooth they are, and how beautifully rounded ! But the same conglomerate extends over many thousands of miles in the North of Scotland, “a vast stratum of water-worn pebbles, varying in depth from a hundred to three hundred feet,” showing that over all that space there extended, at the time when the conglomerate was being formed, a great but shallow ocean, “perplexed by powerful currents and agitated by waves.”

Where, instead of conglomerate, there is sandstone, its constituents remain the same. In the one case the particles have been only rounded and polished, in the other they have been reduced to sand. The sand, being comparatively light, would be carried much farther than gravel, and it again would be rolled to a greater distance than pebbles ; hence the character of rocks depend upon their position and on the tides which prevailed while they were being deposited.

But where are the fossils of the Old Red Sandstone, of which we have all heard so much, as found by Hugh Miller ?—those creatures “fantastic and uncouth, which puzzled the naturalists to assign them even their class ; boat-like animals, furnished with oars and a rudder ; fish, plated over like the tortoise, above and below, with a strong armour of bone, and furnished with but one rudder-like fin ; creatures bristling with thorns ; others glistening in an enamelled coat, as if beautifully japanned, such that the

figures on a Chinese vase or an Egyptian obelisk are scarcely more unlike what exists in nature, than the fossils of the lower Old Red Sandstone?" We frankly admit that we have not one of them. Nor are we ashamed to make the statement; for we supplement it by another, that Hugh Miller himself would have failed to find them; for he tells us that he never got one at Cromarty in that part of the formation which corresponds to the Old Red of Arran. For ten years, he writes, he did not know what was the position in the system of the bed from which all his fossils were obtained. At length, one day, in passing in front of a cliff, on the face of which the various members of the lower portion of the formation were exhibited, arranged one above another, his eye caught an out-cropping fossil; and ere an hour others were found, and the problem of ten years' duration solved.

But why are fossils absent from certain beds? Because at the time they were being formed there were no plants or animals, or none at that spot. At the present time there are beds of oysters, mussels, &c., and also beds greatly frequented by fish, while other places are almost without animals of any kind. The situation, also, of some places is such that they are not merely suited for vegetable and animal life, but they are also so situated in relation to tides and currents, that organisms in abundance are conveyed to them. Hugh Miller mentions such a nook at Cromarty. Such there are at Saltcoats, and it was in them that very many of the marine discoveries of my father were made. The great blank of many coasts, to the naturalist, is the absence of such places.

But it is probable that the entire absence of fossils in the Old Red of Arran arises mainly from its chemical character. "A fish thrown into a heap of salt would be found entire after the lapse of many years ; the same thrown on a heap of sand would disappear in a mass of corruption in a few weeks, and only a few of its less destructible parts,—such as the teeth, the harder bones, and perhaps a few of the scales,—would survive. . . . Limestone is the preserving salt of the geological world, and the conservative powers of the shales and stratified clays of the lower Old Red Sandstone is not much inferior to those of lime itself. In the upper Old Red, we have merely beds of consolidated sand, and these, in most instances, rendered less conservative of organic remains than even the common sand of our shore by a mixture of the red oxide of iron." (Miller's "Old Red Sandstone.")

*Carboniferous System.*—The Carboniferous is much more extensively developed in Arran than any other aqueous rock. With the exception of two patches, it occupies the whole of the coast-line of Arran from Corrie southward to Kildonan, and from that to Machrie Waterfoot ; and in the southern half of Arran, greenstone possesses the centre of the country, as does granite in the north.

The Carboniferous System takes its name from the coal which it contains ; but it consists of a great variety of rocks, which are arranged in three groups,—mountain limestone, millstone grit, and the coal measures.

The Mountain Limestone division contains beds of limestone, several varieties of marble, iron ores of lead, zinc, and

copper. The Millstone Grit division includes beds of sandstone (some of them very fine, but the majority coarse), and in some places shale and thin seams of bad coal. The Coal Measures consist of layers of sandstone, shale, ironstone, and clay alternating with coal and sometimes with seams of limestone.

The Carboniferous System is the most important of all the earth's ancient rocks. Those systems which precede it consist mainly of beds formed under the ocean, and containing organic remains,—mostly sea-weeds, molluscs, and fishes; while all of them together only yield for the use of man zinc, copper, roofing slates, and building or paving stones. How different in the Carboniferous! The wild waste of waters had at length so far subsided as to leave extensive tracts of dry land, which were clothed with a vegetation as luxuriant as any to be found at the present day even in our most tropical lands. It yields lead and iron, and, above all, that coal “which enlivens our hearth and prepares our food, yields the gas that lights our streets, and is an essential agent in the introduction of that steam-power upon which manufactures and locomotion upon sea and land to so large an extent depend. (Milner's “Gallery of Nature.”)

The lowest bed in this system, the Mountain Limestone, is seen to advantage at Corrie, where it has been wrought for agricultural purposes. The characteristic fossil of the Mountain Limestone is the encrinite, with which in some places it so abounds, that when the bed is sufficiently hard, it forms an ornamental stone, equal to the marbles of Italy.

The encrinite was a star-fish ; but instead of moving about, it was attached to a stem formed of innumerable joints, and consequently possessing the most perfect flexibility. These joints (popularly termed St Cuthbert's beads) are of wonderful variety and beauty. It is now known that the family have their representative at the present time, and in few places more abundantly than in the Bay of Lamlash. I refer to the very beautiful *Comatulæ*. There is, however, this difference between the two,—the comatulæ, while fixed upon a flexible stem in youth, afterwards becomes unattached ; while the connection of the encrinite is permanent.

Fossils in Arran are almost confined to its limestone and coal-beds. In the southern half of Arran there are almost none. In the north they are to be had in the limestone, and also at Laggan Bay. This is a most interesting spot. It forms part of a coast-line outwardly barren ; but the bed of coal it contains, though so thin and poor that it is a wonder it was ever wrought, lets us know that there was a time when Arran enjoyed a tropical climate—when tropical plants of the rarest beauty and luxuriance adorned it with their vegetation ; nay, that in this very neighbourhood a volcano had frequently belched forth its rocks of fire, while its tufaceous dust, falling upon a surrounding forest, had again and again embedded and destroyed it, leaving only its roots and upright stems, surrounded by the tufa, to bear witness to the present day of the forest's existence, and of its fate.

How incomparably luxuriant the vegetation of this period was, appears from its enormous beds of coal,—some in America being sixty feet in thickness, all of which have been

formed almost exclusively of vegetable remains. How thankful we ought to be to God for having provided for man such stores of fuel ! How wonderful it is that this produce of a tropical temperature is not confined to the tropics, but is distributed over the world, and is especially abundant in those northern parts where it is most required ; for it extends even to the Melville Island, far within the Arctic circle. Let us also notice how, in connection with this system, God has not merely given us coal, but also iron. What a striking instance of His providence it is, that while iron cannot be smelted without the use of both coal and lime, all the three belong to the same formation, and are frequently found in the same neighbourhood !

But how could such a vegetation exist in the far north ? The earth, now mainly dependent for its warmth upon the sun, at that early period still retained so great a part of its original heat, that the sun had comparatively little influence. This great internal heat would not merely produce a warm temperature, but also cause a vapour of such density as the rays of the sun could never penetrate. But we know that heat, moisture, and the absence of the direct rays of the sun constitute the very conditions most favourable for the growth of ferns and their allies. The whole globe would then resemble a vast fernery, in which day and night, and at all seasons, a vegetation of ferns, club-mosses, and also pines and similar tribes would abound and flourish with almost inconceivable luxuriance. This is what we *know* to have existed. We even *know* that there was no winter, for it is not till a subsequent period—that of

the Lias—that the stems of trees, when cut across, exhibit those rings which are the seals that winter impresses.

But, amid all this wealth of vegetation, was there a man to till the ground? Let us not be led so far away by the impressions produced by mere luxuriance as to imagine that the earth was at that early period adapted for the abode of man. Not only was there no man—there was not yet in existence even one of those animals which have been created so abundantly for his immediate service. There were no sheep to provide him with clothing, no cow to supply him with milk, no horse to labour for his advantage, not a bird to delight him with its song; not an insect (beetles excepted), be it bee, butterfly, or moth, to please his eye; not a flower (a few monocotyledons excepted) to delight him with its beauty; not a plant that could gratify him with its fragrance; not a tree, or even a bush to yield him fruit; not even a blade of grass upon which a rabbit, had there been such, could have nibbled; even the sea was almost as barren of that which is adapted for man as was the land, for it did not yet yield any of those delicate fishes now so highly valued as articles of food. No, the earth was gradually being prepared for man, and for those animals suitable for being his ministers. But in the evolution of the plans of that great Being to whom “a thousand years are as one day,” many cycles had yet to run ere He would say, “Let us make man in our image.” But everything is good in its season. Fuel was being prepared, and there was the richest abundance of those plants whose structure is adapted for best resisting, especially in water,

the action of decay, and therefore peculiarly fitted for being converted into coal, just as the plants growing in bogs now are, for the same reason, the most suitable for the formation of peat.

There were also at this period corals innumerable, to store the earth with lime, as there were iron-impregnated rocks decomposing to give a supply of that mineral. Reptiles had appeared; while monster fishes, clad with massive helmets, breast-plates, and coats of mail, were at the head of all God's works here below. Such was the character of this period.

*Shell Beds.*—We now leave the coal seams by the lonely shore at Laggan, and repair to the south of Arran, and there ascend the little stream which flows through the beautiful and sequestered Lag. In doing so, we take an enormous stride. We pass from the Carboniferous rocks of the Primary or Palæozoic period to the deposits of the Tertiary or Cainozoic—for none of the rocks of the Secondary or Mesozoic age are found in Arran.

During the long intervening period, how great a change has taken place in Arran! Tropical trees, ferns, and club-mosses have passed away; as also has a tropical climate. Instead of the previous luxuriant vegetation, icebergs descending to the sea now mantle the mountain slopes, while the vegetation is similar to that of Iceland at the present day.

The proofs that Arran had once an Arctic climate are all around. We see it in the corries, so abundant in the northern part of the island, for these have been scooped out by glaciers; in the various lochs, cut out of the solid rock by



the same agency. We see it also in the parallel scratchings on the surface of many of the rocks ; for, as the famous stone of Forres still distinctly exhibits the lines rudely traced upon it nearly a thousand years ago, so many rocks still show the *parallel* lines which a force always acting in the same direction impressed upon them during the period of ice.

These scratched surfaces are associated with *Boulder clay*,—a vast accumulation of unstratified mud mingled with gravel and stones, which has been known to exist to the depth of several hundred feet. The beds of the Boulder clay differ from those of the Great Old Red Conglomerate in the stones they contain, being without rounding, or nearly so, in some of them being scratched, and also in their greater size,—those of the Conglomerate being comparatively small, while the greatest of Arran's boulders is fully 2000 tons in weight, and elsewhere they have been found very much heavier. The Arctic shell-beds are found in the Boulder-clay. They were discovered by the Rev. R. B. Watson of Edinburgh, and have been examined with great care by Dr Bryce, who, in his most elaborate work on Arran, treats fully of the subject. Proof had previously existed that in Arran the level of the land had several times changed ; for shells had been found on the floor of the caves surrounding the coasts ; while beds of them were known to exist a little south of Lamlash, and on the Holy Isle, thirty feet above the present sea-level ; but the shell-beds at Lag prove that the change is much greater than otherwise we had imagined ; for some of these beds have an elevation of 180 feet, showing

that the sea must have been at one time to this extent above its present level, or rather that the land was to this extent depressed. In reality, it must have been considerably more, for some of the shells are of species that will only live at a considerable depth of water. Several of the shells are also no longer to be had in the seas of this country, and only to be got in northern latitudes, leading us to infer that when they lived the climate of Arran was Arctic.

Arran, like all parts of the earth, was originally a red-hot mass of matter. By the time of the Carboniferous system it had cooled down to what would now be considered a tropical heat; but the cooling process going on, at length the temperature resembled that of Greenland. We are not, however, to suppose that when the climate of Arran was arctic, similar rigour existed all over the world, as the tropical heat of the Carboniferous period had done. Dr Tyndall has demonstrated the contrary; for he has shown that the formation of icebergs proves the existence of tropics, as the evaporation of the moisture necessary to produce an iceberg requires as much heat as, to use his own illustration, exists in a red-hot mass of iron three times the size of the berg. But the time is coming, if God does not by a special providence interpose, when the earth will no longer have any tropics. Once a mass of molten matter,—that is, a little sun,—it has gradually cooled to its present temperature, when it is fitted for the habitation of man and the various animals which at present occupy it, and the plants by which it is clothed. But the process of cooling still goes on; and a time would come when the temperature of what are now

the tropics would not exceed that of temperate climes ; nay, a time would arrive when the earth would have lost all its heat, and from having once been a little sun, and now an earth, it would have become a moon,—that is, a body having no heat in itself, and only reflecting the light and heat which alight upon it from the sun. But would this be the end ? No. The heat of the sun itself would in course of time become exhausted, and that brilliant blazing orb become a huge dark and cold mass of matter in the immensity of space.

What, then, is the destiny of man ? We have seen that once the earth had no higher type of life than the lowly worm. The worm was succeeded by crustaceans, fish, reptiles, birds, mammals. These dynasties had each their period of ascendancy, but all of them pointed forward to man as their head and crown. Man has come. His animal nature links him to all the creatures that accompany him, and by which he has been preceded. But man has another and higher nature. He is not merely animal ; he is moral and spiritual. By these he is separated from the lower creation by a distance immeasurable, and is linked to all spiritual beings everywhere. Like the inferior animals, he receives “knowledge from impressions ; but, unlike them, he rises from these to that which is general, ideal, and spiritual,—has a conscience, and is capable of what is unselfish, good—nay, godlike.” But is man perfect ? If so, he had been possessed of satisfaction. Is he so ? He had also not merely been capable of the highest qualities ; he would have realised them. Does he do it ? On the contrary, while possessed of all possibilities of good, he is under the

power of evil. The good, the beautiful, and the true, seem to belong to his nature, but to them he cannot attain. The history of the race proves this ; for it is the history of selfishness, crime, and woe. This contrast between man's nature and his actual condition constitutes a great mystery. The poet, with the inspiration of genius, grasps at a solution and exclaims—

“ His grief is but his grandeur in disguise,  
And discontent is immortality.”

But this is only magnificent groping. The mystery and the misery remain. The eternal Father has compassion. The heavens open, and the Son of God, clothed in our human nature, appears in our world. He takes away sin by the sacrifice of Himself. He also sets a perfect example of all that is beautiful and good and true, and then ascends to that heaven of glory from which He came. The eternal Spirit, the third person in the Godhead, next comes. He enters our hearts and unites us to Christ, makes us partakers of the divine nature, and enables us in some measure to copy the example of Jesus. At length the end of all things here below arrives. The divine nature has become one with the human, through the incarnation of the Son of God. The human nature has become one with the divine, by union to the person of Jesus. Sin, with its attendant train, has been cast into the place of darkness prepared for the devil and those who follow him. The Son of God appears in heavenly glory, and welcomes to His joy those who by His grace have overcome in the great conflict against sin. Then, to

use the beautiful language of the author of the “Old Red Sandstone,” “the work of the seventh day—that of redemption—shall have been completed, and the morn of the eternal Sabbath shall have come.”





## NATURAL HISTORY LISTS.

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THOUGH I shall give as full lists as I can of the fauna and flora of Arran, I am sure they could all be greatly enlarged by any naturalist residing for a considerable time in the island. I shall begin with the list of insects. It is the same as that in the New Statistical Account of the parish of Kilbride; for I have in my possession the original list, which I procured for that work from my late lamented friend, Dr. Connel of the High School, Glasgow, who was not only a good entomologist and a distinguished mathematician, but what is better than both, a good, kind, worthy man. My talented friend, the Rev. Dr. MacNaughton, gives me the credit of furnishing some of the lists in his New Statistical Account of the parish of Kilbride, in Arran; and as I have made no list of the Arran birds, I am sure that he will make me welcome to his. It is right that I should acknowledge taking it, lest I should be ranked in the jack-daw tribe. An Arran minister of amiable simplicity, once said to me, “Do you know Dr. S—— of S—— ?” I answered in the negative.

“He is a strange person,” he added; “I am told that he goes through the Highlands, and borrows manuscript sermons from the ministers, and preaches them at home. He borrowed one from me, which he never returned. I have heard of his preaching it before the professors and students in the College Chapel, Glasgow;” adding, with great naiveté, “it was one of Stillingfleet’s!” It is unnecessary to say, that this able sermon-*writer* was not Dr MacNaughton.

## INSECTS (LEPIDOPTERA).

This list was given to my father by the late Dr Connel, High School, Glasgow.

|                                |     |     |  |
|--------------------------------|-----|-----|--|
| <i>Vanessa cardui</i> ,        | ... | ... | Not common. Taken near Brodick and King’s Cove.  |
| <i>Erebia blandina</i> ,       | ... | ... | An Arran specimen of this insect first announced to entomologists that it was a native of this country. (And we may add, that soon after this, an entomologist took sixty, and sold them in London for sixty guineas.) It is far from being uncommon in Arran. |
| <i>Hipparchia polydama</i> ,   | ... | ... | Abundant.  |
| <i>Ctenonympha pamphilus</i> , | ... | ... | Abundant.  |
| <i>Satyrus hyperanthus</i> ,   | ... | ... | Threespecimens, taken at Bennan-head.  |
| <i>Satyrus janira</i> ,        | ... | ... | Bennan-head.   |
| <i>Satyrus semele</i> ,        | ... | ... | Found chiefly on stones exposed to the sun-beams, and sheltered from the wind.   |
| <i>Polyommatus alsus</i> ,     | ... | ... | The sea cliffs opposite Kilmory parish church abounded for a few days with this, which is the smallest of British butterflies.   |
| <i>Polyommatus Alexis</i> ,    | ... | ... | Abundant everywhere.   |
| <i>Vanessa urticæ</i> ,        | ... | ... | Confined almost exclusively to the eastern side of the island.   |

|                                  |     |     |  |
|----------------------------------|-----|-----|--|
| <i>Pieris brassicae</i> ,        | ... | ... | Abundant everywhere, except on the west coast and in the centre. |
| <i>Pieris rapae</i> ,            | ... | ... | Chiefly around Brodick.  |
| <i>Pieris napi</i> ,             | ... | ... | Chiefly around Brodick.  |
| <i>Argynnis Euphrosyne</i> ,     | ... | ... | On high grounds between Brodick and Shisken.                     |
| <i>Argynnis Aglaia</i> ,         | ... | ... | Not uncommon.  |
| <i>Chrysophanus phlaeas</i>      | ... | ... | Found at Shedog.   |
| <i>Chelonia caja</i> ,           | ... | ... | Common.  |
| <i>Dicranura vinula</i> ,        | ... | ... | Rare.  |
| <i>Macroglossa stellatorum</i> , | ... | ... | A specimen taken near Bennan-head.                               |
| <i>Tanagra chærophyllata</i> ,   | ... | ... | Found at Kilmory.  |
| <i>Zygæna filipendulae</i> ,     | ... | ... | Rare. Found near Bennan-head.                                    |

The following were obtained, about ten o'clock, on the ferns and brambles near the sea-coast, between Bennan and Kilmory. The locality was visited for a few minutes during five or six evenings, the weather not permitting longer or more frequent visits :—

|                                |                                     |
|--------------------------------|-------------------------------------|
| <i>Arctia menthastri</i> .     | <i>Fidonia atomaria</i> .           |
| <i>Hypena proboscidalis</i> .  | <i>Cabera exanthemata</i> .         |
| <i>Mamestra brassicae</i> .    | <i>Cabera pusaria</i> .             |
| <i>Hepialus velleda</i> .      | <i>Agrotis porphyrea</i> .          |
| <i>Rumia cratægata</i> .       | <i>Axylia putris</i> .              |
| <i>Ophiodes lunaris</i> .      | <i>Harpalyce fulvata</i> .          |
| <i>Leucania pallens</i> .      | <i>Botys verticalis</i> .           |
| <i>Hepialus humuli</i> .       | <i>Pionea forficalis</i> .          |
| <i>Plusia chrysitis</i> .      | <i>Anarta myrtilli</i> .            |
| <i>Diloba cœruleocephala</i> . | <i>Pterophorus punctidactylus</i> . |
| <i>Leucania impura</i> .       | <i>Chelonia plantaginis</i> .       |
| <i>Eubolia mensuraria</i> .    | <i>Harpalyce sylvatica</i> .        |
| <i>Harpalyce ocellata</i> .    | <i>Plusia gamma</i> .               |

*Hipparchia ligea*, the Arran Brown Butterfly, the rarest of the whole, was said to have been taken by the late Sir Patrick Walker; but not having been found since, it has been removed from the list of British butterflies.



Mr Duncan, Troon, whose collection of the Insects of Ayrshire is wonderfully complete, had most kindly furnished me with the following additional notes on the Insects of Arran. Had he been much there he could have contributed an almost exhaustive list:—

|                                |     |     |   |
|--------------------------------|-----|-----|---|
| <i>Vanessa Io.</i>             | ... | ... | A batch of larvae found on the stinging nettle.                             |
| <i>Smerinthis populi,</i>      | ... | ... | Larvae on poplars.  |
| <i>Charocampa porcellus,</i>   | ... | ... | Brodick Castle.   |
| <i>Sessia apiformis,</i>       | ... | ... | Larvae from the stems of poplars.   |
| <i>Sessia Bembeciformes,</i>   | ... | ... | Larvae from the wood of willows.  |
| <i>Hepialus Lupulinus,</i>     |     | }   | On borders of woods and hedges.   |
| <i>Hepialus Hectus,</i>        | .   |     |   |
| <i>Nudaria Mundana,</i>        | ... | ... | Flying about ivy.   |
| <i>Euthemonia Russula,</i>     | ... | ... | Larvae on the heath.  |
| <i>Euehelia Jacobae,</i>       | ... | ... | The larvae feeding on the <i>Senecio vulgaris</i> .                         |
| <i>Arctia fuliginosa,</i>      | ... | ... | Near Brodick—the larvae running on the road.                                |
| <i>Argyia Antiqua,</i>         | ... | ... | Com. about hedges near Brodick.   |
| <i>Demus Coryli,</i>           | ... | ... | Found on birches in Glen Sannox.  |
| <i>Pacilocampa Populi,</i>     | ... | ... | One specimen sitting on the gable of a house in Lamlash, in December, 1860. |
| <i>Bombyx Rubi,</i>            | ... | ..  | Larvae on the heath.  |
| <i>Bombyx Quercus,</i>         | ... | ... | On heath.   |
| <i>Saturnia Carpini,</i>       | ..  | ... | Larvae, not uncommon on the heath, and the cocoons adhering to the same.    |
| <i>Metrocampa Margaritata,</i> | ... | ... | Among birches and oak trees near Brodick Castle.                            |
| <i>Amphydasis Proclomaria,</i> | ... | ... | Brodick garden, on plum tree there.   |
| <i>Dasydia Obfuscata,</i>      | ... | ... | Lighting on stones near the top of Glen Rosa.                               |
| <i>Acidalia arvensata,</i>     | ... | ... | Among meadow-sweet.   |
| <i>Ilalia Wararia,</i>         | ... | ... | In all the gardens about Brodick—Caterpillar feeding on the black currant.  |
| <i>Strenia clathrata,</i>      | ... | ..  | One specimen caught on the heath, on the way to Goatfell.                   |

|                                 |     |     |  |
|---------------------------------|-----|-----|--|
| <i>Fidonia piniaria</i> ,       | ... | ... | On fir trees, Brodick Castle.  |
| <i>Fidonia pinetaria</i> ,      | ... | ... | Among heath, not uncommon.   |
| <i>Eupithesia centaureata</i> , | ... | ... | On ragweeds in August—larvae found on the same plant.  |
| <i>Eupithesia Nanata</i> ,      | ... | ... | Found among heath near the top of Glen Rosa.   |
| <i>Dicranura furecula</i> ,     | ... | ... | Larvae found on a few sallows in August, near Brodick.   |
| <i>Pygma Bucephala</i> ,        | ... | ... | Larvae, found on the oak in great abundance, August, 1860.   |
| <i>Acronycta Rumicis</i> ,      | ... | ... | Found among bramble bushes.  |
| <i>Acronycta Psi</i> ,          | ... | ... | Not uncommon on trunks of trees.   |
| <i>Hydrecia Nictitans</i> ,     | ... | ... | Common on ragweeds near the shore.   |
| <i>Luperina testacea</i> ,      | ... | ..  | Common among grass.  |
| <i>Charceas graminis</i> ,      | ... | ... | Common sitting on the flowers of thistles and ragweeds.  |
| <i>Apamea oculatea</i> ,        | ... | ... | Common.  |
| <i>Miana Strigilis</i> ,        | ... | ... | On grass.  |
| <i>Miana fasciuncula</i> ,      | ... | ... | Common sitting on the stalks of long grass.  |
| <i>Agrotis lucerneae</i> ,      | ... | ... | Larvae among stones and broken rock, feeds on <i>Sedum Acre</i> , Glen Sannox.                     |
| <i>Agrotis cursoria</i> ,       | ... | ... | Common on ragweeds, &c.  |
| <i>Agrotis tritici</i> ,        | ... | ... | Edges of corn fields, larvae under the clods—a very destructive insect to corn fields and turnips. |
| <i>Agrotis velligera</i> ,      | ... | ... | On ragweeds on the Coast, abundant.  |

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## BIRDS.

All previous lists of the Birds of Arran are now entirely superseded by that of Mr Robert Gray, author of “Birds of the West of Scotland.” He has most kindly allowed me to publish it.—D. L., Jun.

## RAPTORES.

Golden Eagle (*Aquila chrysaetos*) . pp. 130-131.

- White-Tailed Eagle (*Haliaëtus albicilla*) . . . . . pp. 130-131.  
 Osprey (*Pandion haliaëtus*) . . . . . Extinct in Arran.  
 Peregrine Falcon (*Falco peregrinus*) . . . . . pp. 115-116.  
 Hobby (*F. subbutco*) . . . . . Extinct.  
 Merlin (*F. aesalon*) . . . . . This beautiful and active bird is permanently resident.  
 Kestrel (*F. tinnunculus*) . . . . . Common.  
 Sparrow-Hawk (*Accipiter nisus*) . . . . . Common.  
 Kite (*Milvus vulgaris*) . . . . . Extinct.  
 Common Buzzard (*Buteo vulgaris*) . . . . . Getting scarce.  
 Hen Harrier (*Circus cyaneus*) . . . . . Breeds regularly.  
 Long-Eared Owl (*Otus vulgaris*) . . . . . A few pairs.  
 Short-Eared Owl (*O. brachyotos*) . . . . . Breeds regularly, and is seen almost daily hunting the moors for prey in the heat of noon.  
 White or Barn Owl (*Strix flammea*) . . . . . Rare.  
 Tawny Owl (*Syrnium stridula*) . . . . . Not uncommon in wooded places.

## INSESSORES.

- Spotted Flycatcher (*Muscicapa grisola*) . . . . . Very common.  
 Common Dipper (*Cinclus aquaticus*) . . . . . Common on all the streams.  
 Missel Thrush (*Turdus viscivorus*) . . . . . Very abundant.  
 Fieldfare (*T. pilaris*) . . . . . Plentiful in winter.  
 Song Thrush (*T. musicus*) . . . . . Abundant.  
 Redwing (*T. iliacus*) . . . . . Common in winter.  
 Blackbird (*T. merula*) . . . . . Very abundant.  
 Ring Ouzel (*T. torquatus*) . . . . . Abundant.  
 Golden Oriole (*Oriolus gallbula*) . . . . . One shot in 1807.  
 Hedge Accentor (*Accentor modularis*) . . . . . Very common.  
 Redbreast (*Erythaca rubecula*) . . . . . Abundant.  
 Redstart (*Phenicura ruticilla*) . . . . . A few pairs in suitable places.  
 Stonechat (*Saxicola rubicola*) . . . . . Abundant—a few remaining in winter.  
 Whinchat (*S. rubetra*) . . . . . Very common.  
 Wheatear (*S. cenanthe*) . . . . . Very abundant.  
 Sedge Warbler (*Salicaria phragmitis*) . . . . . Abundant, and increasing.

|  |  |
|--|--|
| Blackcap Warbler ( <i>Curruca atricapilla</i> ) . . . . .  | { Sparingly distributed in cultivated districts.               |
| Garden Warbler ( <i>C. hortensis</i> ) . . . . .           | Scarce.  |
| Common Whitethroat ( <i>C. cinerea</i> ) . . . . .         | Abundant.  |
| Wood Warbler ( <i>Sylvia sylvicola</i> ) . . . . .         | Sparingly found in sheltered woods.                            |
| Willow Warbler ( <i>S. trochilus</i> ) . . . . .           | Abundant.  |
| Golden Crested Wren ( <i>Regulus cristatus</i> ) . . . . . | { Abundant, migratory. Found only within the last forty years. |
| Great Tit ( <i>Parus major</i> ) . . . . .                 | Very common.   |
| Blue Tit ( <i>P. cæruleus</i> ) . . . . .                  | Very common.   |
| Cole Tit ( <i>P. ater</i> ) . . . . .                      | Very common.   |
| Long Tailed Tit ( <i>P. caudatus</i> ) . . . . .           | Very common.   |
| Pied Wagtail ( <i>Motacilla yarrellii</i> ) . . . . .      | Common and resident.   |
| Gray Wagtail ( <i>M. boarula</i> ) . . . . .               | Common and resident.   |
| Ray's Wagtail ( <i>M. rayi</i> ) . . . . .                 | Common summer visitant.  |
| Tree Pipit ( <i>Anthus arboreus</i> ) . . . . .            | Common summer visitant.  |
| Meadow Pipit ( <i>A. pratensis</i> ) . . . . .             | Abundant all the year.   |
| Rock Pipit ( <i>A. petrosus</i> ) . . . . .                | Numerous on the shore.   |
| Skylark ( <i>Alauda arvensis</i> ) . . . . .               | Abundant.  |
| Snow Bunting ( <i>Plectrophenax nivalis</i> ) . . . . .    | Flocks seen in winter.   |
| Common Bunting ( <i>Emberiza miliaria</i> ) . . . . .      | Very common.   |
| Blackheaded Bunting ( <i>E. schœniculus</i> ) . . . . .    | Abundant.  |
| Yellow Hammer ( <i>E. citrinella</i> ) . . . . .           | Abundant.  |
| Chaffinch ( <i>Tringilla œlebs</i> ) . . . . .             | Abundant.  |
| Brambling ( <i>Tringilla montifringilla</i> ) . . . . .    | A few in winter in stackyards.                                 |
| House sparrow ( <i>Passer domesticus</i> ) . . . . .       | Most abundant.   |
| Greenfinch ( <i>Coccothraustes chloris</i> ) . . . . .     | Very common.   |
| Goldfinch ( <i>Carduelis elegans</i> ) . . . . .           | In several places.   |
| Common Linnet ( <i>Linota cannabina</i> ) . . . . .        | Abundant.  |
| Lesser Redpole ( <i>L. linaria</i> ) . . . . .             | Rather scarce.   |
| Twite ( <i>L. montium</i> ) . . . . .                      | Plentiful.   |
| Bullfinch ( <i>Pyrrhula vulgaris</i> ) . . . . .           | Not common, increasing.  |
| Common Crossbill ( <i>Loxia curvirostra</i> ) . . . . .    | Very rare.   |
| Starling ( <i>Sturnus vulgaris</i> ) . . . . .             | Very abundant.   |

|  |   |   |  |
|--|---|---|--|
| Chough ( <i>Fregilus graculus</i> )  | . | . | Extinct since 1863.                                      |
| Raven ( <i>Corvus corax</i> )  | . | . | Still maintains its ground.                              |
| Carrión crow ( <i>C. corone</i> ), and<br>Hooded Crow ( <i>C. cornix</i> ) | . | . | { In some numbers, and inter-<br>breed.                  |
| Rook ( <i>C. frugilegus</i> )  | . | . | Common, increasing.                                      |
| Jackdaw ( <i>C. monedula</i> )   | . | . | I have nowhere seen this bird so<br>abundant.            |
| Jay ( <i>C. glandarius</i> )   | . | . | Extinct.   |
| Magpie ( <i>Pica caudata</i> )   | . | . | Extinct.   |
| Common Creeper ( <i>Certhia famili-</i><br><i>aris</i> )                   | . | . | Common.  |
| Wren ( <i>Troglodytes vulgaris</i> )                                       | . | . | Abundant.  |
| Cuckoo ( <i>Cuculus canorus</i> )  | . | . | Abundant.  |
| Kingfisher ( <i>Alcedo ispida</i> )  | . | . | Never found.   |
| Swallow ( <i>Hirundo rustica</i> )   | . | . | Very common.   |
| Martin ( <i>H. urbica</i> )  | . | . | Common.  |
| Sand Martin ( <i>H. riparia</i> )  | . | . | Common. Arrives much earlier<br>than the other swallows. |
| Swift ( <i>Cypselus apus</i> )   | . | . | Very common.   |
| Nightjar ( <i>Caprimulgus Europæus</i> )                                   | . | . | Very common. Named in Arran<br>Goshawk.                  |

## RASORES.

|  |   |   |  |
|--|---|---|--|
| Wood Pigeon ( <i>Columba palumbus</i> )  | . | . | Of late very numerous.   |
| Rock Dove ( <i>C. livia</i> )            | . | . | Very numerous in sea caves.  |
| Pheasant ( <i>Phasianus colchicus</i> )  | . | . | Introduced about 38 years ago.<br>Now abundant.                        |
| Capercaillie ( <i>Tetrao urogallus</i> ) | . | . | Introduced about 30 years ago.<br>Tolerably numerous about<br>Brodict. |
| Black Grouse ( <i>T. tetrix</i> )        | . | . | Most abundant.   |
| Red Grouse ( <i>Lagopus Scoticus</i> )   | . | . | Very abundant.   |
| Ptarmigan ( <i>L. vulgaris</i> )         | . | . | Still a few on Goatfell and Beinn<br>Nuis.                             |
| Partridge ( <i>Perdix cinerea</i> )      | . | . | Abundant. Introduced.  |
| Quail ( <i>Coturnix vulgaris</i> )       | . | . | Very rare, though in Ayrshire it is<br>a regular summer visitant.      |

## GRALLATOIRES.

|   |   |   |              |
|---|---|---|--------------|
| Golden Plover ( <i>Charadrius plu-</i><br><i>vialis</i> ) | . | . | Very common. |
|---|---|---|--------------|

|  |   |   |   |
|--|---|---|---|
| Dotterel ( <i>C. morinellus</i> )              | . | . | Not found.  |
| Ringed Plover ( <i>C. hiaticula</i> )          | . | . | Common. Breeds.   |
| Sanderling ( <i>Calidris arenaria</i> )        | . | . | Is seen for a week or ten days in the end of July or beginning of August. |
| Gray Plover ( <i>Squatarola cinerea</i> )      | . | . | In small numbers in autumn.   |
| Lapwing ( <i>Vanellus cristatus</i> )          | . | . | From April to September, p. 404.  |
| Turnstone ( <i>Streptilas interpres</i> )      | . | . | Until the end of May.   |
| Oyster Catcher ( <i>Hæmatopus ostralegus</i> ) | . | . | { This beautiful wader is common and breeds, p. 404.                      |
| Common Heron ( <i>Ardea cinerea</i> )          | . | . | Common, p. 128.   |
| Bittern ( <i>Botaurus stellaris</i> )          | . | . | One shot in 1835.   |
| Curlew ( <i>Numenius arquata</i> )             | . | . | Abundant.   |
| Whimbrel ( <i>N. phæopus</i> )                 | . | . | A stray visitor early in May.   |
| Redshank ( <i>Totanus calidris</i> )           | . | . | Common. Breeds.   |
| Common Sandpiper ( <i>T. hypoleucos</i> )      | . | . | Very common.  |
| Greenshank ( <i>T. glottis</i> )               | . | . | A stray winter visitant.  |
| Bar-tailed Godwit ( <i>Limosa rufa</i> )       | . | . | In small numbers in autumn.   |
| Woodcock ( <i>Scolopax rusticola</i> )         | . | . | Abundant. Breeds.   |
| Common Snipe ( <i>S. gallinago</i> )           | . | . | Very common.  |
| Jack Snipe ( <i>S. gallinula</i> )             | . | . | Common in winter.   |
| Curlew Sandpiper ( <i>Tringa subarquata</i> )  | . | . | Rare. Only in August.   |
| Knot ( <i>T. canutus</i> )                     | . | . | Becoming more numerous. For ten or twelve days in autumn.                 |
| Dunlin ( <i>T. variabilis</i> )                | . | . | Plentiful. Breeds.  |
| Purple Sandpiper ( <i>T. maritima</i> )        | . | . | Visits in autumn for a short time.  |
| Corncrake ( <i>Crex pratensis</i> )            | . | . | Abundant.   |
| Water Rail ( <i>Rallus aquaticus</i> )         | . | . | Not plentiful.  |
| Moor Hen ( <i>Gallinula chloropus</i> )        | . | . | Very common.  |
| Coot ( <i>Fulica atra</i> )                    | . | . | A few pairs in suitable places.   |

## NATATOIRES.

|  |   |   |  |
|--|---|---|--|
| Gray-Lag Goose ( <i>Anser ferus</i> )          | . | . | Occasionally.  |
| Hooper or Wild Swan ( <i>Cygnus ferus</i> )    | . | . | Has not been observed of late, though it visits Renfrewshire and Ayrshire.   |
| Common Shelldrake ( <i>Tadorna vulpanser</i> ) | . | . | This beautiful bird is plentiful at the south end of Arran, where it breeds. |

- Wild Duck (*Anas boschas*) . . . Abundant
- Teal (*A. crecca*) . . . Common. A few breed.
- Widgeon (*A. penelope*) . . . Common in winter.
- Eider Duck (*Somateria mollissima*) Rare.
- Velvet Scoter (*Oidemia fusca*) . Very rare.
- Common Scoter (*O. nigra*) . . Very rare.
- Pochard or Dun Bird (*Fuligula clangula*) . . . Occasionally seen in the lochs.
- Scaup Duck (*F. marila*) . . Rare.
- Tufted Duck (*F. cristata*) . . Occasionally procured.
- Golden Eye (*F. clangula*) . . Not unfrequent in immature plumage. Old birds rare.
- Red-Breasted Merganser (*Mergus serrator*) . . . Not yet seen.
- Goosander (*M. merganser*) . . This handsome bird is yearly becoming more plentiful.
- Red-Necked Grebe (*Podiceps rubricollis*) . . . Uncommon.
- Selavonian Grebe (*P. cornutus*) . I have seen pairs of this bird on calm days off Arran in the beginning of summer.
- Little Grebe (*P. minor*) . . Common on the lochs, where it breeds.
- Great Northern Diver (*Colymbus glacialis*) . . . This large and handsome diver is frequently seen off Arran at the end of spring. A few remain till June, and are then in their brilliant breeding plumage.
- Black-Throated Diver (*C. arcticus*) } The same remarks apply to this  
as to the last
- Red-Throated Diver (*C. septentrionalis*) . . . Frequent. Occasionally seen in May, when it is in full plumage. A nest and two eggs found in July 1873. This I believe to be the most southern limit yet discovered for the breeding of this bird in Britain.
- Black Guillemot (*Uria grylle*) . Tolerably common. A few pairs breed.
- Common Guillemot (*U. troile*) . Abundant in summer.

- Little Auk (*Mergulus melano-*  
*leucos*) . . . . . Very rare. A specimen in beautiful condition taken 10th Jany., 1874.
- Puffin (*Fratercula arctica*) . . . . . Abundant from February to September.
- Razorbill (*Alca torda*). . . . . Very numerous off shore.
- Great Auk (*Alca impennis*) . . . . . For history of this bird as a Scottish species, see "Birds of the West of Scotland." The last found was procured alive by Dr Fleming in 1821, in the Outer Hebrides, and escaped from its owner off the Island of Pladda, so that Arran is associated with the last of the Great Auks, seen alive in this country.
- Cormorant (*Phalacrocorax carbo*) . . . . . Very common.
- Shag (*P. graculus*) . . . . . Common.
- Gannet or Solan Goose (*Sula alba*) . . . . . Very abundant during summer. Its coming into bays forbodes a storm, p. 53.
- Sandwich Tern (*Sterna Boysii*) . . . . . Seen once or twice.
- Roseate Tern (*S. Dougalli*) . . . . . Rare, p. 400.
- Common Tern (*S. hirundo*) . . . . . Numerous during summer.
- Arctic Tern (*S. arctica*) . . . . . Very common.
- Lesser Tern (*S. minuta*) . . . . . Occasionally met with.
- Black Tern (*S. fissipes*) . . . . . Not seen.
- Blackheaded Gull (*Larus ridibundus*) . . . . . Very common.
- Kittiwake (*L. tridactylus*) . . . . . Plentiful, p. 402.
- Ivory Gull (*L. eburneus*) . . . . . One shot in 1866.
- Common Gull (*L. canus*) . . . . . Plentiful. Breeds.
- Iceland Gull (*L. Islandicus*) . . . . . A rare but regular visitant to the Clyde.
- Lesser Black-backed Gull (*L. fuscus*) . . . . . Very common. Breeds.
- Great Black-backed Gull (*L. marinus*) . . . . . Tolerably common. Breeds.
- Herring Gull (*L. argentatus*) . . . . . Plentiful.



|   |  |
|---|--|
| Pomerine Skua ( <i>Lestris pomerinus</i> )                    | I have recognised this bird off Brodick.   |
| Richardson's Skua ( <i>L. Richardsonii</i> ) . . . . .        | { This pirate bird has also been recognised by me in autumn.   |
| Manx Shearwater ( <i>Puffinus Anglorum</i> ) . . . . .        | { Recognised by me off Brodick several times.  |
| Fork-Tailed Petrel ( <i>Thalassidroma Leachii</i> ) . . . . . | { In the Frith of Clyde every winter.  |
| Storm Petrel ( <i>T. pelagica</i> ) . . . . .                 | I have seen small parties of this interesting little bird on dull days while boating in the frith. A few breed on Ailsa. |

## LIST OF RARER PHENOGRAMMOUS PLANTS FOUND IN ARRAN.

*Revised and Enlarged by Professor Balfour.*

|                                |   |    |   |  |
|--------------------------------|---|----|---|--|
| <i>Alchemilla alpina</i>       | - | -  | - | Goatfell, &c.                                |
| „ <i>conjuncta</i>             | - | -  | - | Glen Sannox.                                 |
| <i>Althæa officinalis</i>      | - | -  | - | Struey rocks                                 |
| <i>Anagallis tenella</i>       | - | -  | - | Common.                                      |
| <i>Agrimonia Eupatorium</i>    | - | -  | - | In several places.                           |
| <i>A. odorata</i>              | - | -  | - | Found by Dr B. Syme in 1871.                 |
| <i>Allium ursinum</i>          | - | -  | - | In several places.                           |
| <i>Alisma ranunculoides</i>    | - | -  | - | Do.  |
| <i>Anthyllis Vulneraria</i>    | - | .. | - | Do.  |
| <i>Arctostaphylos Uva-ursi</i> | - | -  | - | Holy Isle (Catacol Glen abundant D. L., Jun. |
| <i>Apium graveolens</i>        | - | -  | - | Near Lochranza.                              |
| <i>Avena planiculmis</i>       | - | -  | - | Goatfell.                                    |
| <i>Atriplex laciniata</i>      | - | -  | - | Lag.   |
| <i>Bidens cernua</i>           | - | -  | - | Near Brodick.                                |
| „ <i>tripartita</i>            | - | -  | - | Near Lamlash.                                |
| <i>Brassica Monensis</i>       | - | -  | - | Near Brodick, &c.                            |
| <i>Carex lævigata</i>          | - | -  | - | Near Corrygills.                             |
| „ <i>pauciflora</i>            | - | -  | - | In several places.                           |
| <i>Carlina vulgaris</i>        | - | -  | - | Struey rocks.                                |

|                                 |       |   |   |                                 |
|---------------------------------|-------|---|---|---------------------------------|
| <i>Cakile maritima</i>          | -     | - | - | Southend, &c.                   |
| <i>Convolvulus sepium</i>       | -     | - | - | In several places.              |
| „ <i>Soldanella</i>             | -     | - | - | Black-water-foot.               |
| <i>Cotyledon Umbilicus</i>      | -     | - | - | Lamlash, &c.                    |
| <i>Crambe maritima</i>          | -     | - | - | Imachar Port.                   |
| <i>Cuscuta Epilinum</i>         | -     | - | - | Lamlash, among flax.            |
| <i>Corydalis claviculata</i>    | -     | - | - | On roofs of houses, Corrie, &c. |
| <i>Drosera Anglica</i>          | -     | - | - | Near Lamlash, Corrie, &c.       |
| „ <i>longifolia</i>             | -     | - | - | Near Lochranza, Goatfell, &c.   |
| „ <i>rotundifolia</i>           | -     | - | - | Common.                         |
| <i>Epipactis ensifolia</i>      | -     | - | - | Whiting Bay, Sliddery, &c.      |
| <i>Eleocharis uniglumis</i>     | -     | - | - | Kildonan.                       |
| <i>Eupatorium cannabinum</i>    | -     | - | - | In many places.                 |
| <i>Habenaria albida</i>         | -     | - | - | Lochranza, &c.                  |
| „ <i>bifolia</i>                | -     | - | - | { In many places.               |
| „ <i>chlorantha</i>             | -     | - | - |                                 |
| „ <i>viridis</i>                | -     | - | - |                                 |
| <i>Fedia dentata</i>            | -     | - | - | Lochranza.                      |
| <i>Galeopsis versicolor</i>     | -     | - | - | Corn fields.                    |
| <i>Gnaphalium dioicum</i>       | -     | - | - | King's Cross Point, &c.         |
| <i>Gymnadenia conopsea</i>      | -     | - | - | Near King's Cove.               |
| <i>Helianthemum vulgare</i>     | -     | - | - | Kildonan, &c.                   |
| <i>Helosciadium, nodiflorum</i> | var., |   |   |                                 |
| repens                          | -     | - | - | Lamlash.                        |
| <i>Hieracium vulgatum</i>       | -     | - | - | Lochranza.                      |
| <i>Hypericum Androsæmum</i>     | -     | - | - | In many places.                 |
| „ <i>dubium,</i>                | -     | - | - | Whiting Bay.                    |
| „ <i>Elodes</i>                 | -     | - | - | Lochranza and King's Cove.      |
| <i>Inula dysenterica</i>        | -     | - | - | Kildonan.                       |
| „ <i>Helenium</i>               | -     | - | - | Struey rocks.                   |
| <i>Lanium intermedium</i>       | -     | - | - | Brodick, &c.                    |
| <i>Lathyrus sylvestris</i>      | -     | - | - | Southend, &c.                   |
| <i>Ligusticum Scoticum</i>      | -     | - | - | Lochranza.                      |
| <i>Myrica Gale</i>              | -     | - | - | Corrygills.                     |
| <i>Mertensia maritima</i>       | -     | - | - | Do.                             |
| <i>Lithospermum officinale</i>  | -     | - | - |                                 |
| <i>Lobelia Dortmanna</i>        | -     | - | - | Do.                             |
| <i>Listera cordata,</i>         | -     | - | - | Common.                         |
| „ <i>ovata</i>                  | -     | - | - | Brodick.                        |
| <i>Mentha alopecuroides</i>     | -     | - | - | Common.                         |
| <i>Narthecium ossifragum</i>    | -     | - | - | Goatfell.                       |

|   |   |   |   |  |
|---|---|---|---|--|
| <i>Enanthe Lachenallii</i>                    | - | - | - | In many places.                                    |
| <i>Oxyria reniformis</i>                      | - | - | - | Brodick.   |
| <i>Pinguicula Lusitanica</i>                  | - | - | - | In many places.                                    |
| <i>Peucedanum Ostruthium</i>                  | - | - | - | Brodick.   |
| <i>Polygonum Raii</i>                         | - | - | - | Lamlash and Lag.                                   |
| <i>Pulicaria dysenterica</i>                  | - | - | - | Struey rocks (Whiting Bay by Mrs<br>Marshall).     |
| <i>Pyrus pinnaatifida</i> var. <i>fennica</i> | - | - | - | Near Lochranza.                                    |
| <i>Potamogeton plantagineus</i>               | - | - | - | Brodick, in a ditch.                               |
| „ <i>polygonifolius</i>                       | - | - | - | Loch na Davie.                                     |
| <i>Ranunculus lingua</i>                      | - | - | - | Near Lamlash.                                      |
| <i>Raphanus maritimus</i>                     | - | - | - | Southend.  |
| <i>Radiola millegrana</i>                     | - | - | - | Near Springbank.                                   |
| <i>Rhodiola rosea</i>                         | - | - | - | Near Lochranza.                                    |
| <i>Rosa involuta</i>                          | - | - | - | Lamlash.   |
| „ <i>villosa</i>                              | - | - | - | -  |
| <i>Rubus affinis</i>                          | - | - | - | Do.  |
| „ <i>carpinifolius</i>                        | - | - | - | Do.  |
| „ <i>corylifolius</i>                         | - | - | - | Do.  |
| „ <i>discolor</i>                             | - | - | - | Do.  |
| „ <i>Idæus</i>                                | - | - | - | Do.  |
| „ <i>incurvatus</i>                           | - | - | - | Do.  |
| „ <i>Koehleri</i> var. <i>pallidus</i>        | - | - | - | Do.  |
| „ <i>leucostachys</i>                         | - | - | - | Do.  |
| „ <i>macrophyllus</i>                         | - | - | - | Do.  |
| „ <i>mucronatus</i>                           | - | - | - | Do.  |
| „ <i>nitidus</i>                              | - | - | - | Do.  |
| „ <i>plicatus</i>                             | - | - | - | Do.  |
| „ <i>rhamnifolius</i>                         | - | - | - | Do.  |
| „ <i>saxatilis</i>                            | - | - | - | Do.  |
| „ <i>tuberculatus</i>                         | - | - | - | Near Lag.  |
| <i>Salix herbacea</i>                         | - | - | - | Ben Bharrain.                                      |
| <i>Trollius Europæus</i>                      | - | - | - | Lamlash.   |
| <i>Triticum acutum</i>                        | - | - | - | Lamlash.   |
| <i>Samolus Valerandi</i>                      | - | - | - | Brodick, Lamlash, Kildonan.                        |
| <i>Saxifraga stellaris</i>                    | - | - | - | Goatfell, &c.                                      |
| <i>Sedum Telephium</i>                        | - | - | - | Brodick.   |
| <i>Senecia Saracenicus</i>                    | - | - | - | Whiting Bay. Probably intro-<br>duced.—D. L., Jun. |
| <i>Smyrniurn Olusatrum</i>                    | - | - | - | -  |

|                             |   |   |   |                                    |
|-----------------------------|---|---|---|------------------------------------|
| <i>Solanum Dulcamara</i>    | - | - | - | In many places.                    |
| <i>Thalictrum alpinum</i>   | - | - | - | Ben Varen, Goatfell.               |
| „ <i>minus</i>              | - | - | - | Whiting Bay.                       |
| <i>Typha latifolia</i>      | - | - | - | Whiting Bay.                       |
| <i>Utricularia vulgaris</i> | - | - | - | Loch Davie.                        |
| <i>Vicia sylvatica</i>      | - | - | - | Kildonan.                          |
| <i>Zostera marina</i>       | - | - | - | In fine fructification at Lamlash. |

## F E R N S .

|                                  |   |   |   |   |
|----------------------------------|---|---|---|---|
| <i>Aspidium aculeatum</i>        | - | - | - | Soft prickly Shield-fern. Frequent in hedges and woods.   |
| „ <i>var lobatum</i>             | - | - | - | Close-leaved prickly Shield-fern. Frequent on cliffs near the sea.  |
| „ <i>Oreopteris</i>              | - | - | - | Heath Shield-fern. Abundant in glens and moors, and easily known by its sweet scent and light-green colour.                                       |
| „ <i>æmulum</i>                  | - | - | - | Shield Hay fern, so called from its scent. Abundant in the woods.   |
| „ <i>spinulosum</i>              | - | - | - | Prickly-toothed Shield-fern. Frequent.  |
| <i>Asplenium Adiantum-nigrum</i> | - | - | - | Black-stalked Spleenwort. On rocks, and known by its black stem.  |
| „ <i>marinum</i>                 | - | - | - | Sea-Spleenwort. At one time abundant, now somewhat rare. Frond thick and glossy. It delights in caves which overhang the sea.                     |
| „ <i>Ruta-muraria</i>            | - | - | - | Wall-Rue Spleenwort. Much less than any of the preceding. Frequently found on old walls.  |
| „ <i>Trichomanes</i>             | - | - | - | Common Wall-Spleenwort. Often named Maidenhair. A very beautiful fern with black stem, and growing abundantly in the crevices of rocks and walls. |
| <i>Athyrium Filix-femina</i>     | - | - | - | Lady-fern. Very graceful and beautiful.   |

|                                   |   |   |   |  |
|-----------------------------------|---|---|---|--|
| <i>Blechnum boreale</i>           | . | - | - | Hard-fern, Common. Known by the tall spike of the sterile fronds, totally different from the fertile.  |
| <i>Botrychium Lunaria</i>         | . | - | - | Moon-wort. In dry pastures, but difficult to detect.   |
| <i>Cystopteris fragilis</i>       | . | - | - | Bladder-wort. A graceful little fern. Grows at the Blue Rock, Sannox, &c.  |
| <i>Cryptogramme crispa</i>        | . | - | - | Parsley-fern. At the head of Glen Sannox ; but now scarce.   |
| <i>Hymenophyllum Tunbridgense</i> | . | - | - | Tunbridge Filmy-fern. It and the next are the smallest of British ferns. This grows on the old sea-cliff near Corrie, and at various other places. |
| „ „ <i>Wilsoni</i>                | . | - | - | Wilson's Filmy-fern. In the same places as the last and more abundant ; but also on higher ground.   |
| <i>Nephrodium, Filix mas</i>      | . | - | - | Blunt Shield-fern. Very common.  |
| <i>Ophioglossum vulgatum</i>      | . | - | - | Adder's Tongue. Very small. Grows in dry meadows ; but very difficult to detect.   |
| <i>Osmunda regalis</i>            | . | - | - | Royal Fern. At one time very abundant, now scarce. p 132.  |
| <i>Polypodium Dryopteris</i>      | . | - | - | Oak-fern. p 37.  |
| „ <i>Phegopteris</i>              | . | - | - | Beech-fern. Shaded rocky places.   |
| „ <i>vulgare</i>                  | . | - | - | Common Polypody.   |
| <i>Pteris aquilina</i>            | . | - | - | Brake. "The wild buck bells (bellows) from ferny <i>brake</i> ."   |
| <i>Scolopendrium vulgare</i>      | . | - | - | Hart's-tongue. Shady places.   |
| <i>Trichomanes radicans</i>       | . | - | - | Bristle-fern. Found in a little cave betwixt Corrie and Sannox.  |
| <i>Lycopodium alpinum</i>         | . | - | - | On mountains.  |
| „ <i>clavatum</i>                 | . | - | - | Abundant on the hills.   |
| „ <i>Selago</i>                   | . | - | - | Moors, common.   |
| <i>Selaginella selaginoides</i>   | . | - | - | Bogs and wet places.   |
| <i>Equisetum arvense</i>          | . | - | - | Garden Horsetail. Common.  |
| „ <i>maximum</i>                  | . | - | - | Great Water Horsetail. Frequent.   |

|                          |   |   |   |  |
|--------------------------|---|---|---|--|
| <i>Equisetum limosum</i> | - | - | - | Smooth Horsetail. Frequent.  |
| „ <i>palustre</i>        | - | - | - | Marsh Horsetail. Frequent.   |
| „ <i>sylvaticum</i>      | - | - | - | Branched Wood-horsetail. The most handsome of all the British species. In form like a little fir tree. |

## RARER MOSSES FOUND IN ARRAN.

|                                |                                |
|--------------------------------|--------------------------------|
| <i>Andræa rupestris.</i>       | <i>Gymnostomum rupestre.</i>   |
| <i>Anæctangium ciliatum.</i>   | <i>Hedwigia æstiva.</i>        |
| <i>Bartramia fontana.</i>      | <i>Hypnum aduncum.</i>         |
| „ <i>ithyphylla.</i>           | „ <i>alopecurum.</i>           |
| „ <i>pomiformis.</i>           | „ <i>dendroides.</i>           |
| <i>Bryum alpinum.</i>          | „ <i>loreum.</i>               |
| „ <i>carneum.</i>              | „ <i>serpens.</i>              |
| „ <i>horæum.</i>               | „ <i>Silesianum.</i>           |
| „ <i>ligulatum.</i>            | „ <i>splendens.</i>            |
| „ <i>nutans.</i>               | „ <i>triquetrum.</i>           |
| „ <i>turbinatum.</i>           | „ <i>trichomanoides.</i>       |
| <i>Conostomum boreale.</i>     | „ <i>uncinatum.</i>            |
| <i>Dicranum adiantoides.</i>   | <i>Neckera crispa.</i>         |
| „ <i>bryoides.</i>             | <i>Polytrichum aloides.</i>    |
| „ <i>flexuosum.</i>            | „ <i>nanum.</i>                |
| „ <i>glaucum.</i>              | „ <i>urnigerum.</i>            |
| „ <i>heteromallum.</i>         | <i>Splachnum ampullaceum.</i>  |
| „ <i>pellucidum.</i>           | <i>Trichostomum canescens.</i> |
| „ <i>taxifolium.</i>           | „ <i>heterostichum.</i>        |
| „ <i>varium.</i>               | „ <i>lanuginosum.</i>          |
| <i>Entosthodon Templetoni.</i> | <i>Weissia acuta.</i>          |
| <i>Funaria Mühlenbergii.</i>   | „ <i>curvirostra.</i>          |
| <i>Grimmia apocarpa.</i>       |                                |
| „ <i>maritima.</i>             |                                |

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|                                    |                                  |
|------------------------------------|----------------------------------|
| <i>Jungermannia calyptrifolia.</i> | <i>Jungermannia minutissima.</i> |
| „ <i>cochleariformis.</i>          | „ <i>tomentella.</i>             |
| „ <i>Hutchensiae.</i>              | „ <i>undulata.</i>               |

## LICHENS.

|                          |                          |
|--------------------------|--------------------------|
| <i>Alectoria jubata.</i> | <i>Cladonia furcata.</i> |
| <i>Cetraria glauca.</i>  | „ <i>rangiferina.</i>    |

|                      |                          |
|----------------------|--------------------------|
| Lecanora tartarea.   | Ramalina scopulorum.     |
| Parmelia caperata.   | Scyphophorus cocciferus. |
| „ physodes.          | „ gracilis.              |
| „ saxatilis.         | „ pyxidatus.             |
| Peltidea canina.     | Squamaria murorum.       |
| Ramalina fastigiata. | Stereocaulon paschale.   |
| „ fraxinea.          | Sticta pulmonaria.       |

## ALGÆ.

(Former names are given in italics.)

|   |  |
|---|--|
| Ahnfeltia ( <i>Gymnogyngus</i> ) plicata.     | Chondriopsis ( <i>Laurencia</i> ) dasy-    |
| Alaria esculenta.                             | phylla.                                    |
| Asperococcus Turneri.                         | „ tenuissima.                              |
| Bangia fusco-purpurea.                        | Chondrus crispus.                          |
| Bonnemaisonia asparagoides.                   | Chorda filum.                              |
| Bryopsis plumosa.                             | „ lomentaria.                              |
| Callithamnion arbuscula.                      | Chordaria flagelliformis.                  |
| „ Brodiaei.                                   | Chylocladia clavellosa.                    |
| „ byssoideum.                                 | Cladostephus spongiosus.                   |
| „ corymbosum.                                 | „ verticillatus.                           |
| „ gracillimum.                                | Cladophora lanosa.                         |
| „ Hookeri.                                    | „ Linum.                                   |
| „ interruptum.                                | „ melagonium.                              |
| „ plumula.                                    | „ rupestris.                               |
| „ polyspermum.                                | „ tortuosa.                                |
| „ repens.                                     | Codium tomentosum.                         |
| „ roseum.                                     | Corynospora ( <i>Callithamnion</i> ) pedi- |
| „ tetragonum.                                 | cellata.                                   |
| „ Turneri.                                    | Cutleria multifida.                        |
| „ virgatulum.                                 | Cystoclonium ( <i>Hypnæa</i> ) purpuras-   |
| Calliblepharis ( <i>Rhodymenia</i> ) jubata.  | cens.                                      |
| Callophyllis laciniata ( <i>Rhodymenia</i> ). | Dasya coccinea.                            |
| Calothrix confervicola.                       | Delesseria alata.                          |
| Catanella Opuntia.                            | „ Hypoglossum.                             |
| Ceramium ciliatum.                            | „ ruscifolia.                              |
| „ diaphanum.                                  | „ sinuosa.                                 |
| „ rubrum.                                     | Desmarestia aculeata.                      |
| „ tenuissimum.                                | „ viridis.                                 |

|   |  |
|---|--|
| Dictyosiphon fœniculaceus.                    | Mesogloia vermicularis.                        |
| Dictyota dichotoma.                           | „ virescens.                                   |
| Dudresnaia coccinea.                          | Myrionema strangulans.                         |
| „ divaricata.                                 | Myriotrichia filiformis.                       |
| Elachistea fucicola.                          | Nitophyllum laceratum.                         |
| „ stellulata.                                 | „ punctatum.                                   |
| Ectocarpus Landsburgii.                       | Odonthalia dentata.                            |
| „ littoralis.                                 | Oscillatoria nigra.                            |
| „ siliculosus.                                | Peyssonelia Dubyi.                             |
| Enteromorpha clathrata.                       | Phyllophora Brodiaei.                          |
| „ compressa.                                  | „ membranifolia.                               |
| Fucodium canaliculatum.                       | Plocamium coccineum.                           |
| „ nodosum.                                    | Polyides lumbricalis.                          |
| Fucus ceranoides.                             | Polysiphonia atro-rubescens.                   |
| „ serratus.                                   | „ Brodiaei.                                    |
| „ vesiculosus.                                | „ byssoides.                                   |
| Gelidium corneum.                             | „ elongata.                                    |
| Gigartina membranifolia.                      | „ elongella.                                   |
| Gloiosiphonia capillaris.                     | „ fastigiata.                                  |
| Griffithsia corallina.                        | „ fibrata.                                     |
| „ setacea.                                    | „ fibrillosa.                                  |
| Halidrys siliquosa.                           | „ fruticulosa.                                 |
| Halymenia ligulata.                           | „ nigrescens.                                  |
| Helminthora ( <i>Dudresnaia</i> ) divaricata. | „ parasitica.                                  |
| Himanthalia lorea.                            | „ pulvinata.                                   |
| Iridæa edulis.                                | „ sertularioides.                              |
| Jania rubens.                                 | „ subulifera.                                  |
| Laminaria digitata.                           | „ thuyoides.                                   |
| „ fascia.                                     | „ urceolata.                                   |
| „ Phyllitis.                                  | Porphyra laciniata.                            |
| „ saccharina.                                 | „ vulgaris.                                    |
| Laurencia obtusa.                             | Ptilota plumosa.                               |
| „ pinnatifida.                                | Punctaria latifolia.                           |
| Leathesia tuberiformis.                       | „ plantaginea.                                 |
| Litosiphon pusillus.                          | Ralfsia verrucosa.                             |
| Lomentaria ( <i>Chylocladia</i> ) articulata. | Rhodomela lycopodioides.                       |
| „ kaliformis.                                 | „ subfusca.                                    |
| „ parvula.                                    | Rhodophyllis ( <i>Rhodymenia</i> ) bifida.     |
| Maugeria ( <i>Delesseria</i> ) sanguinea.     | „ ( <i>Rhodymenia ciliata</i> ) appendiculata. |
|   | Rhodymenia palmata.                            |



|  |                              |
|--|------------------------------|
| Rhodymenia var. sobolifera.              | Sphærococcus coronopifolius. |
| „ Palmetta.                              | Stilophora Lyngbyei.         |
| Sacchoriza ( <i>Laminaria</i> ) bulbosa. | Striatella arcuata.          |
| Seirospora Griffithsiana.                | Sporochnus pedunculatus.     |
| Scinaia ( <i>Ginannia</i> ) furcellata.  | Striaria fragilis.           |
| Sphacelaria cirrhosa.                    | Ulva Lactuca.                |
| „ olivacea.                              | „ Linza.                     |
| „ plumosa.                               | „ latissima.                 |
| „ scoparia.                              |                              |

## FRESH WATER ALGÆ.

|                              |                        |
|------------------------------|------------------------|
| Cladophora glomerata.        | Ulva montana.          |
| Batrachospermum moniliforme. | Petalonema alatum.     |
| „ „ vagans.*                 | Tetraspora gelatinosa. |
| Draparnaldia glomerata.      |                        |

\* This plant—the most beautiful species perhaps of the beautiful family—I am glad to say has lately been found in abundance in streamlets, on Goatfell, by my valued friend, Mr Keddie. It had not before been met with in Scotland, except by Captain Carmichael in Appin, and by Professor Dickie in Loch Phadrick, Aberdeenshire, 2199 feet above the level of the sea. It has been found by Sir W. Hooker on the summit of Snowdon,

## LIST OF MOLLUSCA.

|                       |                     |
|-----------------------|---------------------|
| Aclis nitidissima.    | Artemis exoleta.    |
| „ unica.              | „ lineta.           |
| Acmæa testudinalis.   | Arca lactea.        |
| „ virginea.           | Astarte arctica.    |
| Acteon viridis.       | „ compressa.        |
| Adeorbis subcarinata. | „ elliptica.        |
| Akera bullata,        | „ sulcata.          |
| Amphisphyra hyalina.  | Balanus balanoides. |
| Anomia aculeata.      | „ communis.         |
| „ ephippium.          | „ rugosus.          |
| „ patelliformis.      | „ Scoticus.         |
| Aporrhais carbonis.   | Buccinum undatum.   |
| „ pes-pellicani.      | Cardium aculeatum.  |

|                                  |                               |
|----------------------------------|-------------------------------|
| <i>Cardium echinatum.</i>        | <i>Fulina polita.</i>         |
| ,, <i>edule.</i>                 | ,, <i>subulata.</i>           |
| ,, <i>fasciatum.</i>             | <i>Fissurella reticulata.</i> |
| ,, <i>nodosum.</i>               | <i>Fusus antiquus.</i>        |
| ,, <i>Norvegicum.</i>            | ,, <i>Islandicus.</i>         |
| ,, <i>pygmæum.</i>               | <i>Kellia nitida.</i>         |
| ,, <i>serratum.</i>              | ,, <i>rubra.</i>              |
| ,, <i>Succicum.</i>              | ,, <i>suborbicularis.</i>     |
| <i>Cerithiopsis tuberculare.</i> | <i>Lamellaria perspicua.</i>  |
| <i>Cerithium aduersum.</i>       | <i>Lacuna pallidula.</i>      |
| ,, <i>reticulatum.</i>           | ,, <i>vineta.</i>             |
| ,, <i>subulatum.</i>             | <i>Littorina littoralis.</i>  |
| <i>Chemnitzia indistincta.</i>   | ,, <i>littorea.</i>           |
| ,, <i>rufescens.</i>             | ,, <i>Neritoides.</i>         |
| <i>Cochlodesma prætenue.</i>     | ,, <i>saxatilis.</i>          |
| <i>Corbula nucleus.</i>          | <i>Leda caudata.</i>          |
| <i>Circe minima.</i>             | <i>Lima hians.</i>            |
| <i>Chiton asellus.</i>           | ,, <i>Loscombii.</i>          |
| ,, <i>cenereus.</i>              | ,, <i>subauriculata.</i>      |
| ,, <i>fascicularis.</i>          | <i>Lucina borealis.</i>       |
| ,, <i>leues.</i>                 | ,, <i>flexuosa.</i>           |
| ,, <i>marmoreus.</i>             | ,, <i>spinifera.</i>          |
| ,, <i>ruber.</i>                 | <i>Lucinopsis undata.</i>     |
| <i>Crania anomala.</i>           | <i>Lutraria elliptica.</i>    |
| <i>Crenella decussata.</i>       | <i>Mactra cinerea.</i>        |
| ,, <i>discors.</i>               | ,, <i>elliptica.</i>          |
| ,, <i>marmorata.</i>             | ,, <i>solida.</i>             |
| <i>Cremoria Flemingii.</i>       | ,, <i>stultorum.</i>          |
| <i>Cylichna cylindracea.</i>     | ,, <i>subtruncata.</i>        |
| ,, <i>mamillata.</i>             | ,, <i>truncata.</i>           |
| ,, <i>obtusa.</i>                | <i>Mangelia attenuata.</i>    |
| ,, <i>truncata.</i>              | ,, <i>costata.</i>            |
| ,, <i>umbilicata.</i>            | ,, <i>Leufroyi.</i>           |
| <i>Cypræa Europæa.</i>           | ,, <i>linearis.</i>           |
| <i>Cyprina Islandica.</i>        | ,, <i>nebula.</i>             |
| <i>Dentalium entalis.</i>        | ,, <i>purpurea.</i>           |
| <i>Donax anatinus.</i>           | ,, <i>rufa.</i>               |
| <i>Emarginula reticulata.</i>    | ,, <i>septangularis.</i>      |
| <i>Eulina bilineata.</i>         | ,, <i>striolata.</i>          |
| ,, <i>distorta.</i>              | ,, <i>turricola.</i>          |

|                       |                            |
|-----------------------|----------------------------|
| Montacuta bidentata.  | Pecten striatus.           |
| ,, ferruginosa.       | ,, tigrinus.               |
| ,, substriata.        | ,, varius.                 |
| Modiola modiolus.     | Pectunculus glycymeris.    |
| ,, phaseolina.        | Pileopsis Hungarica.       |
| Mya arenaria.         | Pilidium fulvum.           |
| ,, truncata.          | Philine aperta.            |
| ,, var. Uddevalensis. | ,, catena.                 |
| Mytilus edulis.       | ,, scabra.                 |
| Nassa incrassata.     | Pinna pectinata.           |
| ,, reticulata.        | Propilidium Ancyloide.     |
| Natica monilifera.    | Psammobia Ferroensis.      |
| ,, Montagui.          | Purpura lapillus.          |
| ,, nitida.            | Rissoa Beanii.             |
| Nucula nitida.        | ,, calathiscus.            |
| ,, nucleus.           | ,, calathus.               |
| ,, radiata.           | ,, cingilla.               |
| ,, tenuis.            | ,, costata.                |
| Octopus vulgaris.     | ,, costulata.              |
| Odostomia conoidea.   | ,, crenulata.              |
| ,, costata.           | ,, fulgida.                |
| ,, cylindrica.        | ,, inconspicua.            |
| ,, decussata.         | ,, labiosa.                |
| ,, interstincta.      | ,, parva, var. interrupta. |
| ,, excavata.          | ,, parva.                  |
| ,, ornata.            | ,, punctura.               |
| ,, pallida.           | ,, rufilabrum.             |
| ,, plicata.           | ,, semistriata.            |
| ,, rissoides.         | ,, striata.                |
| ,, spiralis.          | ,, striatula.              |
| ,, unidentata.        | ,, vitrea.                 |
| Ostrea edulis.        | ,, ulvæ.                   |
| Ovula acuminata.      | ,, Zetlandica.             |
| Patella athletica.    | Saxicava arctica.          |
| ,, pellucida.         | ,, rugosa.                 |
| ,, vulgata.           | Scalaria communis.         |
| Pecten maximus.       | ,, Turtonis.               |
| ,, opercularis.       | Scaphander lignarius.      |
| ,, pusio.             | Scobicularia piperata.     |
| ,, similis.           | Skenea divisa.             |

|                                      |                                |
|--------------------------------------|--------------------------------|
| <i>Skenea planorbis</i> .            | <i>Thracia phaseolina</i> .    |
| ,, <i>rota</i> .                     | ,, <i>pubescens</i> .          |
| <i>Solecurtus coarctatus</i> .       | <i>Trichotropis borealis</i> . |
| <i>Solen ensis</i> .                 | <i>Tornatella fasciata</i> .   |
| ,, <i>pellucidus</i> .               | <i>Trophon Barvicensis</i> .   |
| ,, <i>siliqua</i> .                  | ,, <i>clathratus</i> .         |
| <i>Sphenea Binghami</i> .            | <i>Trochus cinerarius</i> .    |
| <i>Spirialis Flemingii</i> .         | ,, <i>magus</i> .              |
| <i>Syndosmya alba</i> .              | ,, <i>millegranus</i> .        |
| ,, <i>prismatica</i> .               | ,, <i>Montagni</i> .           |
| <i>Tapes pullastra</i> .             | ,, <i>pusillus</i> .           |
| ,, <i>virginea</i> .                 | ,, <i>tumidus</i> .            |
| <i>Tellina crassa</i> .              | ,, <i>umbilicatus</i> .        |
| ,, <i>donacina</i> .                 | ,, <i>nudulatus</i> .          |
| ,, <i>fabula</i> .                   | ,, <i>zizyphinus</i> .         |
| ,, <i>incarnata</i> .                | <i>Turritella communis</i> .   |
| ,, <i>punicea</i> .                  | <i>Turtonia minuta</i> .       |
| ,, <i>solidula</i> .                 | <i>Velutina lævigata</i> .     |
| ,, <i>tenuis</i> .                   | <i>Venus casina</i> .          |
| <i>Terebella chrysodon</i> .         | ,, <i>fasciata</i> .           |
| <i>Terebratula caput-serpentis</i> . | ,, <i>ovata</i> .              |
| <i>Teredo megotara</i> .             | ,, <i>striatula</i> .          |
| <i>Thracia convexa</i> .             | ,, <i>verrucosa</i> .          |

Since this list was published by my Father three additions have been made—*Lyonsia Norvegica*, and *Mangelia teres*— by Dr. Miles ; and *Ncara cuspidata*, by Mr David Robertson.

#### FORAMENIFERA, &c.

|                              |                                 |
|------------------------------|---------------------------------|
| <i>Arethusa lactea</i> .     | <i>Lobatula reversa</i> var.    |
| ,, <i>vesicula</i> .         | ,, <i>vulgaris</i> .            |
| <i>Bulimina nitida</i> .     | <i>Nodosaria delecta</i> .      |
| <i>Entosolenia globosa</i> . | ,, <i>legumen</i> .             |
| ,, <i>marginata</i> .        | ,, <i>linearis</i> .            |
| ,, <i>squamosa</i> .         | ,, <i>radicula</i> .            |
| <i>Lagenula globosa</i> .    | <i>Nummulina marginata</i> .    |
| ,, <i>lævis</i> .            | <i>Polystomiella auricula</i> . |
| ,, <i>lineata</i> .          | ,, <i>calcar</i> .              |
| ,, <i>semistriata</i> .      | ,, <i>crispa</i> .              |
| ,, <i>striata</i> .          | ,, <i>depressula</i> .          |

|                                   |                                 |
|-----------------------------------|---------------------------------|
| <i>Polystomella umbilicatulæ.</i> | <i>Vermiculum concentricum.</i> |
| <i>Renoidea oblonga.</i>          | „ <i>funetum.</i>               |
| <i>Rotalia Beccaria.</i>          | „ <i>incurvatum.</i>            |
| „ <i>reversa</i> var.             | „ <i>intortum.</i>              |
| <i>Spirolina subarcuatula.</i>    | „ <i>marginatum.</i>            |
| <i>Textularia oblonga.</i>        | „ <i>oblongum.</i>              |
| <i>Vermilia scabra.</i>           | „ <i>politum.</i>               |
| „ <i>serrulata.</i>               | „ <i>retortum.</i>              |
| „ <i>triquetra.</i>               | „ <i>subrotundum.</i>           |
| <i>Vermiculum bicornæ.</i>        |                                 |

## ANNELIDS, &amp;c.

|                            |                             |
|----------------------------|-----------------------------|
| <i>Eunice tubicola.</i>    | <i>Spirorbis corrugata.</i> |
| <i>Pectinaria Belgica.</i> | „ <i>heterostropha.</i>     |
| <i>Sabella alveolata.</i>  | „ <i>lucida.</i>            |
| <i>Serpula Mulleri.</i>    | „ <i>nautiloides.</i>       |
| „ <i>vermicularis.</i>     | <i>Terebella Chrysodon.</i> |
| <i>Spirorbis conica.</i>   | „ <i>conchilega.</i>        |

## NUDIBRANCHS.

Those marked by an asterisk were found by Mr Alder.

|                                  |  |
|----------------------------------|--|
| <i>Ægirus punctilucens.</i>      | <i>Eolis alba.</i>                     |
| <i>Ancula cristata.</i>          | „ <i>amethystina.*</i>                 |
| <i>Dendronotus arborescens.*</i> | „ <i>coronata.</i>                     |
| <i>Doris bilamellata.</i>        | „ <i>Drummondii.</i>                   |
| „ <i>flammea.*</i>               | „ <i>Glottensis</i> , new species.     |
| „ <i>Johnstoni.</i>              | „ <i>papillosa.</i>                    |
| „ <i>planata</i> , new species.* | „ <i>pieta.</i>                        |
| „ <i>tuberculata.</i>            | „ <i>rufibranchialis.</i>              |
| <i>Doto coronata.</i>            | <i>Eumenis flavida</i> , new species.* |
| „ <i>fragilis.</i>               | <i>Lomanotus flavidus.*</i>            |
| <i>Embletonia pulchra.</i>       | <i>Pterochilus pulcher.</i>            |
| <i>Eledone octopodia.*</i>       |  |

## LIST OF STAR FISHES.

|                             |                             |
|-----------------------------|-----------------------------|
| <i>Asterias aurantiaca.</i> | <i>Cribella oculata.</i>    |
| <i>Asterina gibbosa.</i>    | „ <i>rosea.</i>             |
| <i>Comatula Milleri.*</i>   | <i>Goniaster glacialis.</i> |
| „ <i>rosacea.</i>           | „ <i>Templetoni.</i>        |

|                             |                                |
|-----------------------------|--------------------------------|
| <i>Luidia fragilissima.</i> | <i>Ophiura texturata.</i>      |
| <i>Ophiocoma Ballii.</i>    | <i>Palmipes membranaceus.†</i> |
| „ <i>bellis.</i>            | <i>Solaster endeca.‡</i>       |
| „ <i>granulata.</i>         | <i>Synapta inhærens.§</i>      |
| „ <i>minuta.</i>            | <i>Uraster glacialis.</i>      |
| „ <i>rosula.</i>            | „ <i>rubens.</i>               |
| <i>Ophiura albida.</i>      |                                |

\* Dr. Carpenter was the first to notice that *C. Milleri* is found in Arran.

† *Palmipes membranaceus* is rare also, as only one specimen was got by Major Martin and another by me.

‡ *Solaster endeca* seems rather rare in the west, as only one specimen has been got.

§ Found by Mr David Robertson.

#### LIST OF SEA-URCHINS.

|                               |                             |
|-------------------------------|-----------------------------|
| <i>Amphidotus cordatus.</i>   | <i>Echinus miliaris.</i>    |
| „ <i>roseus.</i>              | „ <i>sphæra.</i>            |
| <i>Echinoeyamus pussilus.</i> | <i>Spatangus purpureus.</i> |
| <i>Echinus lividus</i> var.   |                             |

#### LIST OF CRABS.

|   |                                |
|---|--------------------------------|
| <i>Cancer pagurus.</i>                          | <i>Lithodes maia.</i>          |
| <i>Carcinus maenas.</i>                         | <i>Inachus Dorsettensis.</i>   |
| <i>Corystes Cassivelaunus</i> and <i>C.</i>     | <i>Nephrops Norvegicus.</i>    |
| <i>Bryeni.</i>                                  | <i>Pagurus Bernhardus.§</i>    |
| <i>Crangon vulgaris.</i>                        | <i>Pinnotheres pisum.</i>      |
| <i>Ebalia Pennantii</i> and <i>E. Cranchii.</i> | <i>Palaemon squilla.</i>       |
| <i>Galathea squamifera.</i>                     | <i>Porcellana longicornis.</i> |
| <i>Gonoplax angulata.‡</i>                      | „ <i>platycheles.</i>          |
| <i>Hyas araneus</i> and <i>H. coarctatus.</i>   |                                |

‡ Often got on the Ayrshire coast.

§ We found several species of the Hermit-crab, but I dare not attempt to name them.

#### LIST OF RARER ZOOPHYTES.

|                          |                             |
|--------------------------|-----------------------------|
| <i>Actinia bellis.</i>   | <i>Alcyonium digitatum.</i> |
| „ <i>dianthus.</i>       | <i>Antennularia ramosa.</i> |
| <i>Adamsia palliata.</i> | <i>Anthea cereus.</i>       |

|                                      |                                  |
|--------------------------------------|----------------------------------|
| <i>Anthea Tuediae.</i>               | <i>Lepralia tennis.</i>          |
| <i>Cellepora cervicornis.</i>        | „ <i>pediostoma.</i>             |
| „ <i>pumicosa.</i>                   | „ <i>pertusa.</i>                |
| <i>Cellularia reptans.</i>           | „ <i>punctata.</i>               |
| <i>Crisidia cornuta.</i>             | „ <i>variolosa.</i>              |
| <i>Eucratea chelata.</i>             | <i>Membranipora pilosa.</i>      |
| „ <i>eburnea.</i>                    | <i>Pennatula phosphorea.</i>     |
| <i>Flustra foliacea.</i>             | <i>Plumularia Catharina.</i>     |
| <i>Flustra linearis.</i>             | „ <i>falcata.</i>                |
| „ <i>membranacea.</i>                | „ <i>myriophyllum,</i> with      |
| „ <i>tuberculata.</i>                | „ <i>ovaries.</i>                |
| <i>Halecium Beanii.</i>              | „ <i>Pinnata.</i>                |
| <i>Hippothoa catenularia.</i>        | „ <i>setacea.</i>                |
| <i>Hydractinia echinata.</i>         | <i>Salicornia farciminoïdes.</i> |
| <i>Sponges—Halichondria panicea.</i> | <i>Sertularia abietina.</i>      |
| „ „ <i>suberca.</i>                  | „ <i>flicina.</i>                |
| <i>Laomedea geniculata.</i>          | „ <i>Margarita.</i>              |
| <i>Lepralia annulata.</i>            | „ <i>operculata.</i>             |
| „ <i>ciliata.</i>                    | „ <i>polyzonias.</i>             |
| „ <i>coccinea.</i>                   | „ <i>pumila.</i>                 |
| „ <i>hyalina.</i>                    | „ <i>rugosa.</i>                 |
| „ <i>immersa.</i>                    | <i>Thuaria thuia.</i>            |
| „ <i>insignis.</i>                   | <i>Tubulipora hispida.</i>       |
| „ <i>Landsborovii, Johnston</i>      | „ <i>patina.</i>                 |
| (one specimen at Loch-<br>ranza).    | „ <i>serpens.</i>                |

## FISHES.

To the rarer fishes mentioned in chap. xii. of Natural History, the following may be added :—

The Picked Dog-fish, Bone-fish, or Hoe (*Acanthias vulgaris*).

The Small-Spotted Dog-fish (*Scyllium canicula*).

The Great Pipe-fish, Needle-fish, or Tangle-fish (*Syngnathus Acus*).

The Snake Pipe-fish (*Nerophis anguineus*).

The Gemmeous (Gem-like) Dragonet, Gowdie (Gold-fish), or Bridegroom (*Callionymus lyra*). Its head is striped with blue on a yellow ground.

The Sordid (not so beautiful as the other) Dragonet (*Callionymus dracunculus*).

The Corkwing, Golden Maid, Golden Wrasse, or Gilt-Head (*Crenilabrus melops*). N.B.—Formerly named *Labrus*, p. 385.

The Red Gurnard or Soldier (*Trigla cuculus*). Called also Cuckoo Gurnard, from the sound it makes when it has been taken out of the water.

Father-Lasher, or Long-Spined Sea Bullhead (*Cottus bubalis*).





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## APPENDIX.



Page 29, line 14, for *tract* read *track*.

Page 43, line 14, add—Mark also where it bursts from the soil, as, like the spring at the Coek of Arran, it is in the hottest day in summer as cold as it would be in winter.

Page 56, line 23, add—The old Lag road leads off from the highway about 120 yards south of Monamore bridge.

Page 60, line 27.—The fronds of the Great Australian Tree-fern are now (Jnly, 1875) four feet seven inches in length and two feet two inches in breadth. A new set, partly developed, promise to be considerably larger. As summer roses make only one growth in the year, while China and Tea make two or three, so does the tree-fern differ from the common. It is also evergreen, and retains its fronds for several years. The plant at Corrie has at present fifteen fronds, and before the year is over it will have more.

Page 84, line 2, for *light* read *tight*.

Page 92, line 26, for *lie* read *lies*.

Page 118.—Transfer the last sentence of the paragraph to the close of the following paragraph.

Page 149, line 17, for *head* read *heart*.

Page 191, line 16, for *Phalla* read *Phallus*.

Page 202, line 5, add—Both of Dr Landsborough's largest works are by the late Charles Kingsley, in his *Glaucus*, without qualification, commended as "very excellent."

Page 207, line 10, for *successfully* read *successively*.

„ 279. „ 17, delete the word *new*.

„ 360, „ 7, for *parilion* read *parilions*.

„ 362, „ 10, „ *did* read *didst*.

„ 428, „ 24, „ *west* read *whole*.

„ 438, delete "and also the first Earl of Arran."

„ 443, delete *or* in first line.

„ 467, delete lines 11 and 12.

„ 468, line 6, for *Shisken* read *Shiskan*.

„ 479, „ 38, for *Senecia* read *Senecio*.

„ 483, „ 10, for *Gymnoyongrus* read *Gymnogongrus*.

„ „ „ 29, for *Hypnæa* read *Hypnæa*.

„ 484, „ 28, print *Rhodophyllis appendiculata* (*Rhodymenia ciliata*).







